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NATA

Client:
LumCAT: LM40L250120AV
Luminaire:
Report No: GC2019031803 Voltage(V):
Test No: GC2018101507 Current(A):
LampCAT: LUMILEDS LUXEON3030 2D(ROUND LES) Power (W): 14.1500
Lamp flux(lm): 1870.5 PF:
Number of Lamps: 1 Ballast type:
Length(mm): 70 Width(mm): 250
Phm Type: C Height(mm): 0

Photometric Results

Lumens(lm): 1710.99, Efficiency(%): 91.47% , Luminous Efficacy(lm/W): 120.92
Central intensity(cd): 424.242, Maximum intensity(cd): 594.345
Angle of maximum intensity: C=0.0 γ=50.0
Beam Angle(50%Imax): [C0/180]Total=122.2
[C90/270]Total=122.2
Field angle(10%Imax): [C0/180]Total=130.2
[C90/270]Total=130.2
Maximum s/h(1/2): C0_180=1.93 C90_270=1.93
Maximum s/h(1/4): C0_180=2.00 C90_270=2.00
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 91.47%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 93.356%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	424.242	0.000	0	.000%	.000%
1.0	424.397	0.406	0.406	.022%	.024%
2.0	424.791	1.219	1.625	.065%	.095%
3.0	425.330	2.033	3.658	.109%	.214%
4.0	425.705	2.849	6.507	.152%	.380%
5.0	426.012	3.664	10.171	.196%	.594%
6.0	426.310	4.479	14.65	.239%	.856%
7.0	426.853	5.296	19.946	.283%	1.166%
8.0	427.643	6.115	26.061	.327%	1.523%
9.0	428.698	6.940	33.001	.371%	1.929%
10.0	429.914	7.770	40.771	.415%	2.383%
11.0	431.173	8.604	49.375	.460%	2.886%
12.0	432.551	9.442	58.817	.505%	3.438%
13.0	434.126	10.285	69.102	.550%	4.039%
14.0	435.703	11.134	80.236	.595%	4.689%
15.0	437.285	11.985	92.221	.641%	5.390%
16.0	438.963	12.839	105.06	.686%	6.140%
17.0	440.773	13.700	118.76	.732%	6.941%
18.0	442.655	14.566	133.326	.779%	7.792%
19.0	444.614	15.437	148.763	.825%	8.695%
20.0	446.937	16.318	165.081	.872%	9.648%
21.0	449.220	17.208	182.289	.920%	10.654%
22.0	451.596	18.102	200.391	.968%	11.712%
23.0	454.188	19.006	219.397	1.016%	12.823%
24.0	457.160	19.925	239.322	1.065%	13.987%
25.0	460.252	20.860	260.182	1.115%	15.207%
26.0	463.341	21.802	281.983	1.166%	16.481%
27.0	466.873	22.758	304.741	1.217%	17.811%
28.0	470.988	23.745	328.486	1.269%	19.199%
29.0	475.214	24.755	353.241	1.323%	20.645%
30.0	479.583	25.779	379.021	1.378%	22.152%
31.0	484.681	26.834	405.855	1.435%	23.721%
32.0	490.184	27.929	433.783	1.493%	25.353%
33.0	495.741	29.046	462.829	1.553%	27.050%
34.0	501.696	30.185	493.015	1.614%	28.815%
35.0	508.277	31.366	524.381	1.677%	30.648%
36.0	514.967	32.580	556.961	1.742%	32.552%
37.0	521.445	33.802	590.763	1.807%	34.528%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	528.338	35.040	625.803	1.873%	36.576%
39.0	535.887	36.325	662.128	1.942%	38.699%
40.0	542.925	37.625	699.753	2.011%	40.898%
41.0	549.837	38.913	738.666	2.080%	43.172%
42.0	557.114	40.217	778.883	2.150%	45.522%
43.0	564.452	41.546	820.429	2.221%	47.951%
44.0	571.022	42.856	863.285	2.291%	50.455%
45.0	577.263	44.130	907.415	2.359%	53.035%
46.0	583.076	45.378	952.794	2.426%	55.687%
47.0	587.956	46.575	999.369	2.490%	58.409%
48.0	591.668	47.687	1047.055	2.549%	61.196%
49.0	593.953	48.688	1095.743	2.603%	64.042%
50.0	594.345	49.544	1145.288	2.649%	66.937%
51.0	592.200	50.201	1195.489	2.684%	69.871%
52.0	586.863	50.594	1246.083	2.705%	72.828%
53.0	577.139	50.634	1296.717	2.707%	75.788%
54.0	562.013	50.209	1346.926	2.684%	78.722%
55.0	540.879	49.231	1396.157	2.632%	81.600%
56.0	511.284	47.544	1443.702	2.542%	84.378%
57.0	470.538	44.891	1488.593	2.400%	87.002%
58.0	420.380	41.199	1529.792	2.203%	89.410%
59.0	361.224	36.540	1566.333	1.953%	91.546%
60.0	294.504	30.979	1597.311	1.656%	93.356%
61.0	219.917	24.549	1621.861	1.312%	94.791%
62.0	155.309	18.081	1639.941	.967%	95.848%
63.0	101.435	12.487	1652.428	.668%	96.578%
64.0	61.826	8.011	1660.439	.428%	97.046%
65.0	43.249	5.200	1665.639	.278%	97.350%
66.0	35.597	3.934	1669.573	.210%	97.580%
67.0	31.650	3.381	1672.954	.181%	97.777%
68.0	28.931	3.069	1676.023	.164%	97.957%
69.0	27.031	2.855	1678.878	.153%	98.123%
70.0	25.406	2.693	1681.571	.144%	98.281%
71.0	23.930	2.550	1684.121	.136%	98.430%
72.0	22.617	2.420	1686.542	.129%	98.571%
73.0	21.401	2.302	1688.843	.123%	98.706%
74.0	20.102	2.182	1691.025	.117%	98.833%
75.0	18.710	2.051	1693.076	.110%	98.953%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	17.456	1.920	1694.996	.103%	99.065%
77.0	16.383	1.804	1696.8	.096%	99.171%
78.0	15.347	1.699	1698.499	.091%	99.270%
79.0	14.320	1.594	1700.093	.085%	99.363%
80.0	13.385	1.494	1701.586	.080%	99.451%
81.0	12.499	1.400	1702.986	.075%	99.532%
82.0	11.613	1.308	1704.294	.070%	99.609%
83.0	10.596	1.207	1705.501	.065%	99.679%
84.0	9.584	1.099	1706.6	.059%	99.744%
85.0	8.602	0.993	1707.593	.053%	99.802%
86.0	7.460	0.878	1708.471	.047%	99.853%
87.0	6.211	0.748	1709.219	.040%	99.897%
88.0	5.299	0.631	1709.85	.034%	99.934%
89.0	5.140	0.572	1710.422	.031%	99.967%
90.0	5.147	0.564	1710.986	.030%	100.000%

Zonal flux distribution table

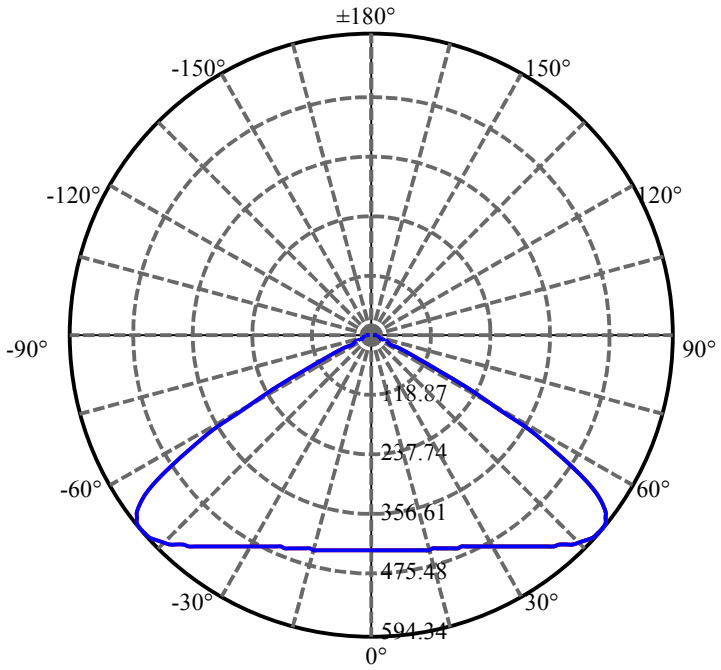
ZONAL LUMEN SUMMARY

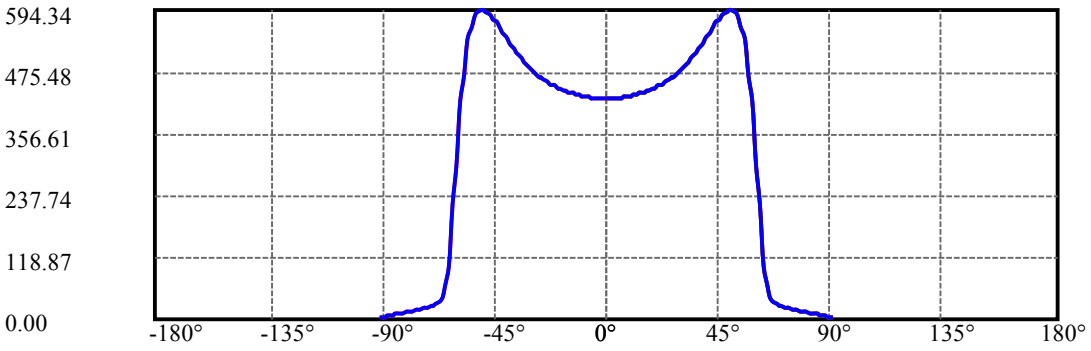
Zone	Lumens	%Lamp	%Fixt
0-30	379.02	20.26%	22.15%
0-40	699.75	37.41%	40.90%
0-60	1597.31	85.39%	93.36%
0-90	1710.42	91.44%	99.97%
0-120	1710.42	91.44%	99.97%
0-180	1710.99	91.47%	100.00%
60-90	144.09	7.70%	8.42%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-54.44	1368.79	73.18%	80.00%

ZONAL LUMEN SUMMARY

0-10	40.77
10-20	124.31
20-30	213.94
30-40	320.73
40-50	445.53
50-60	452.02
60-70	84.26
70-80	20.02
80-90	8.84
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

Light Distribution Curve [Unit:cd]





C0(Max):

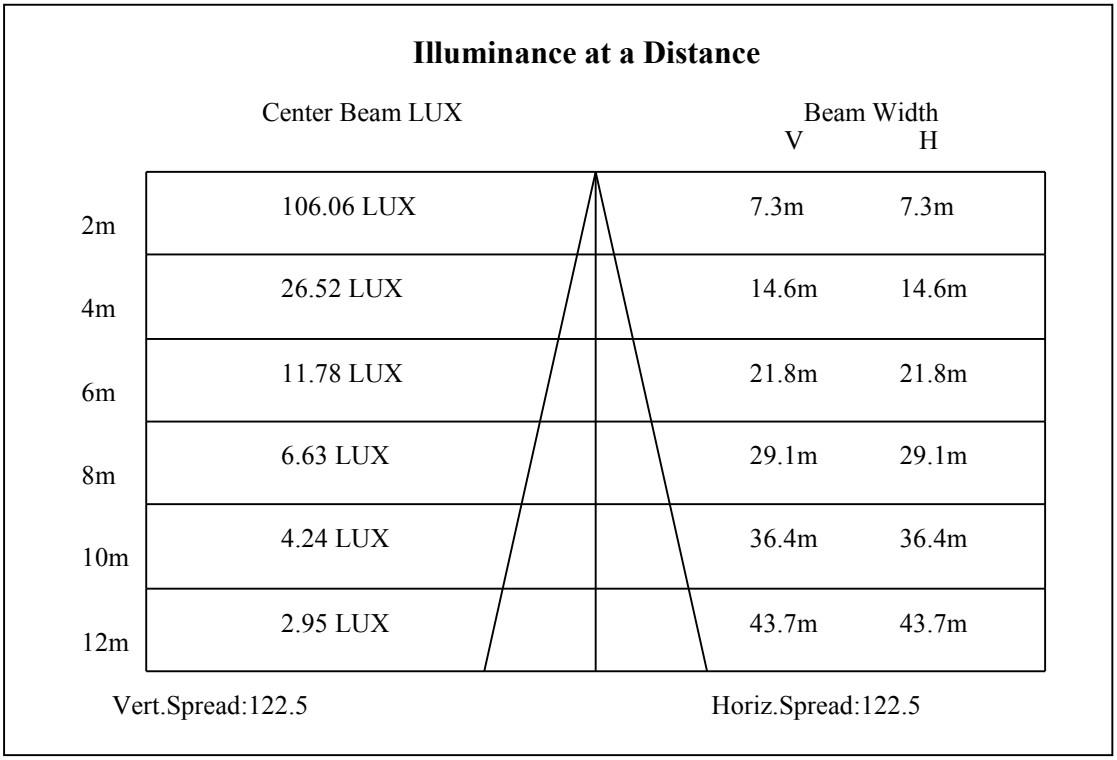
C0/C180:

C90/C270:

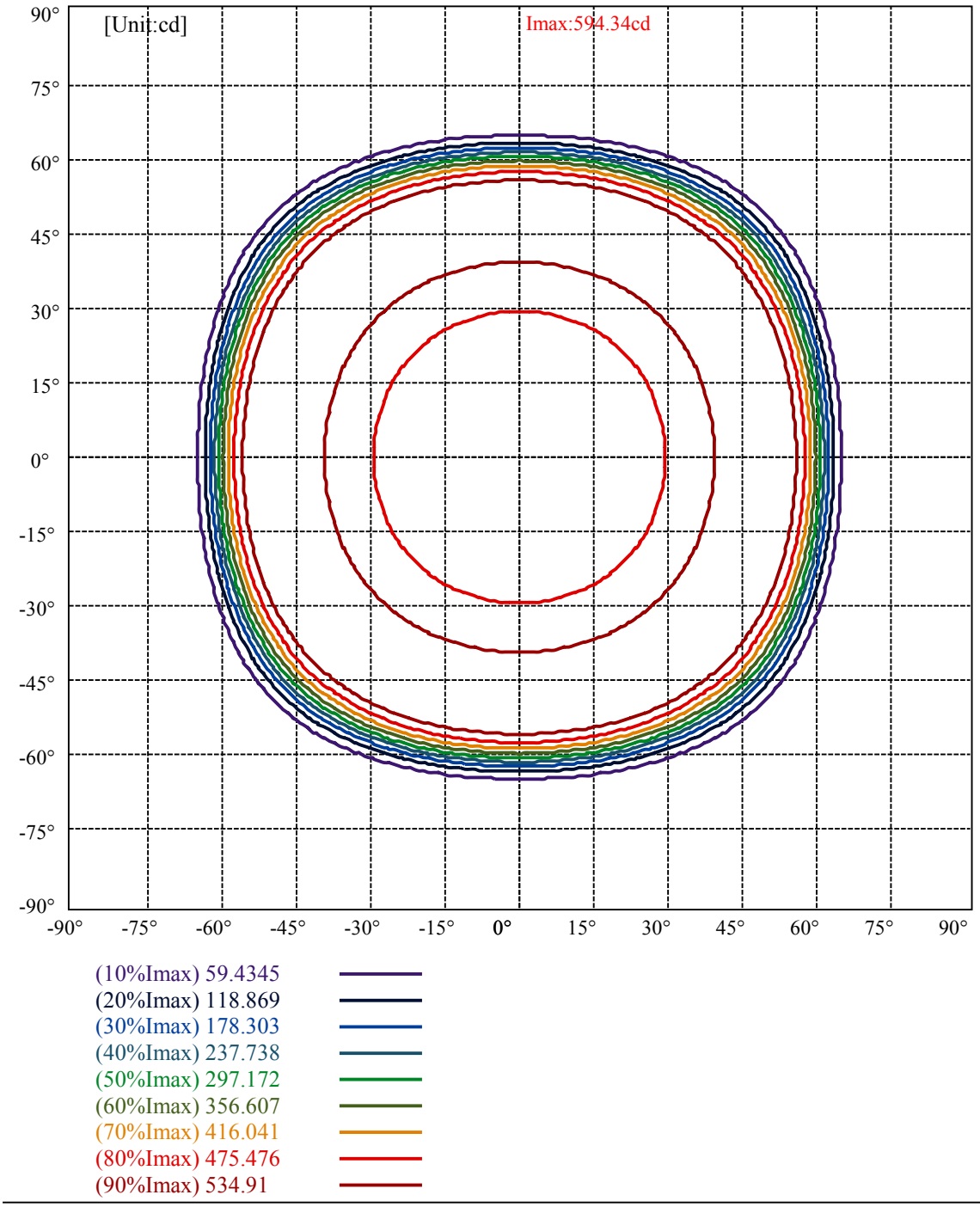
Field angle(10%Imax):C0/180Left:65.1 Right:65.1
:C90/270Left:65.1 Right:65.1

Beam Angle(50%Imax):C0/180Left:61.1 Right:61.1
:C90/270Left:61.1 Right:61.1

Lux distance Curve



ISO-Intensity(V-H)

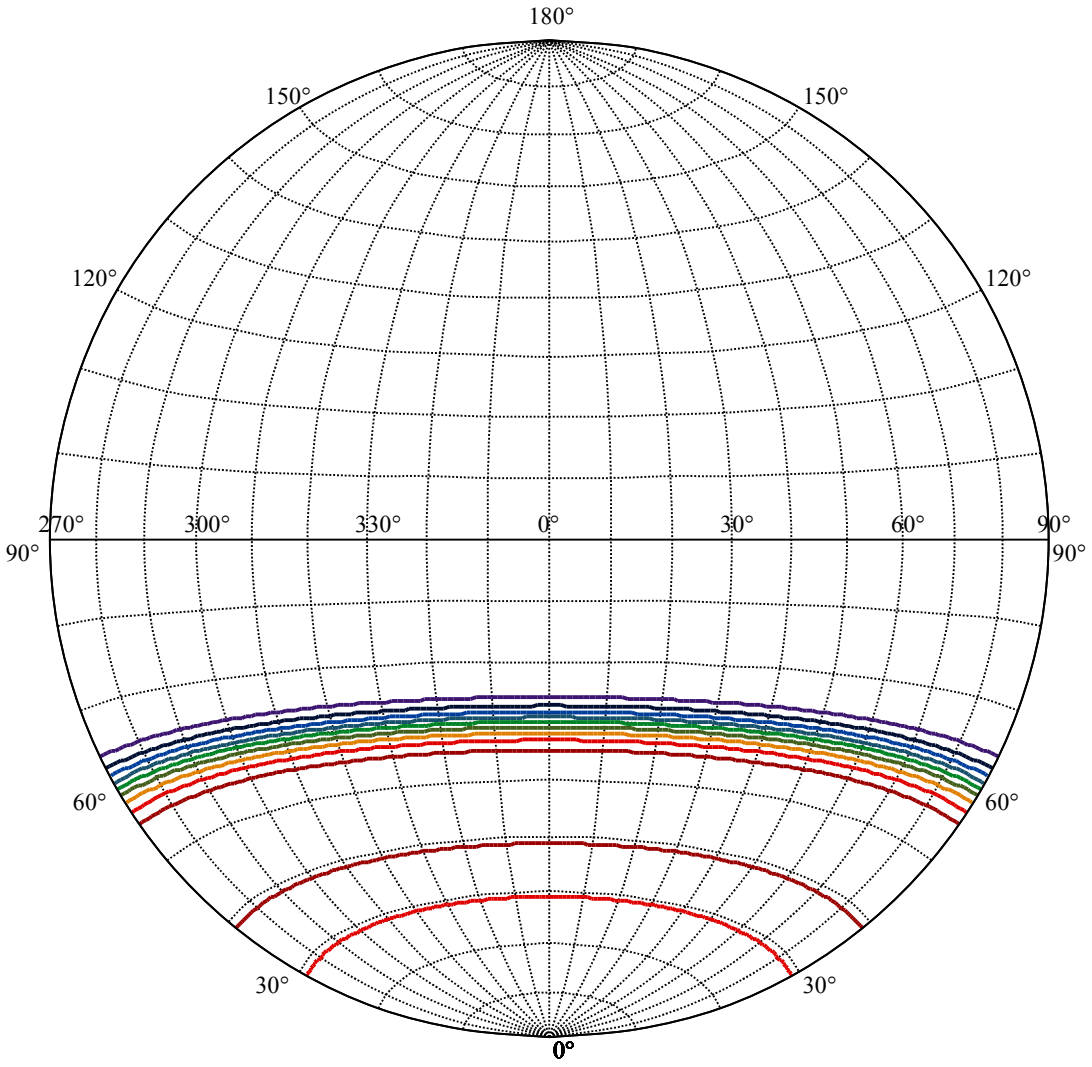


Equipment: 123
Temperature(°C): 345

Date: 2018/10/15
Humidity(%): 456%

Operator: 234

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:594.34

(10%Imax) 59.4345
(20%Imax) 118.869
(30%Imax) 178.303
(40%Imax) 237.738
(50%Imax) 297.172
(60%Imax) 356.607
(70%Imax) 416.041
(80%Imax) 475.476
(90%Imax) 534.91

Equipment: 123 Date: 2018/10/15 Operator: 234
Temperature(°C): 345 Humidity(%): 456%

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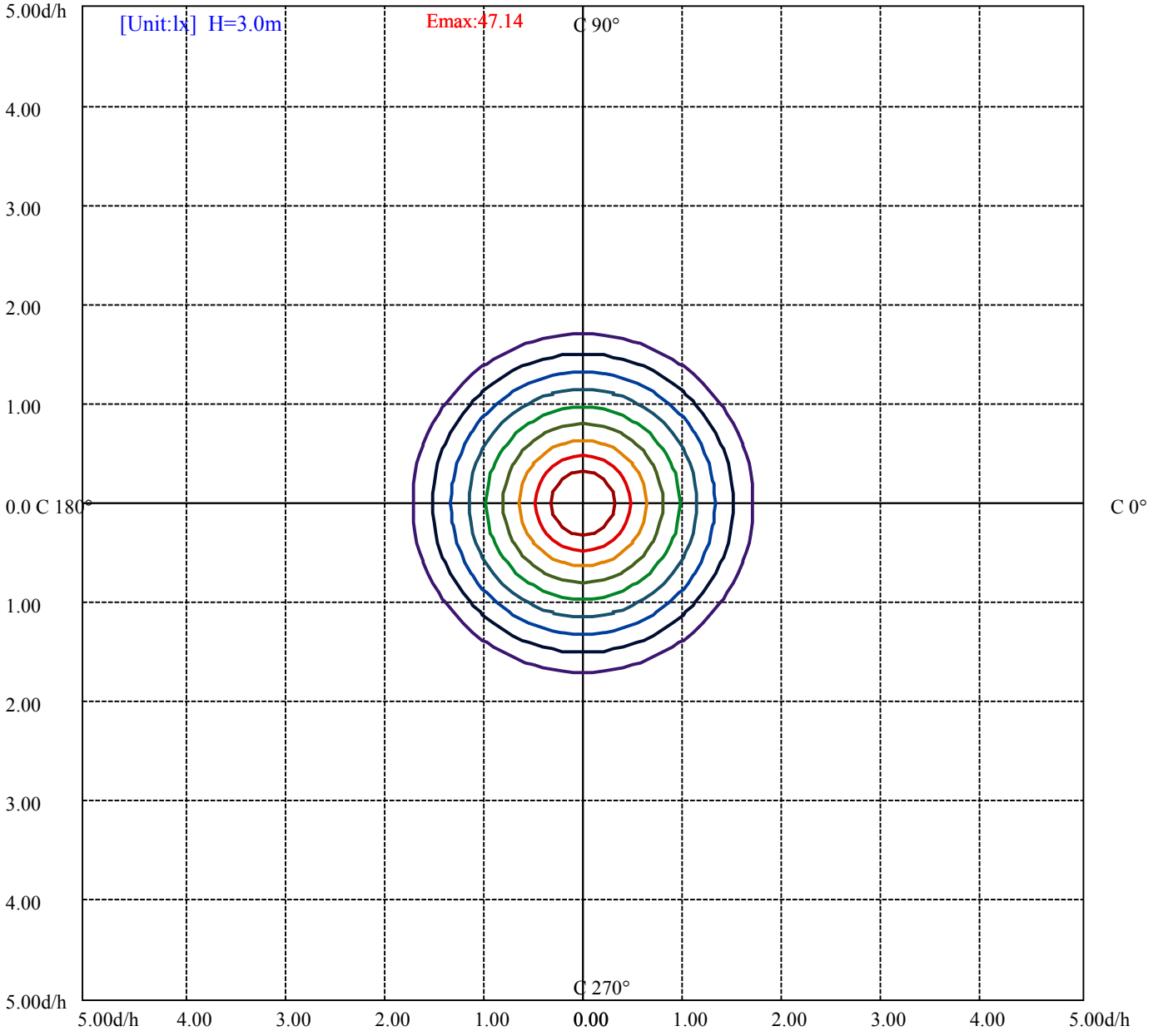
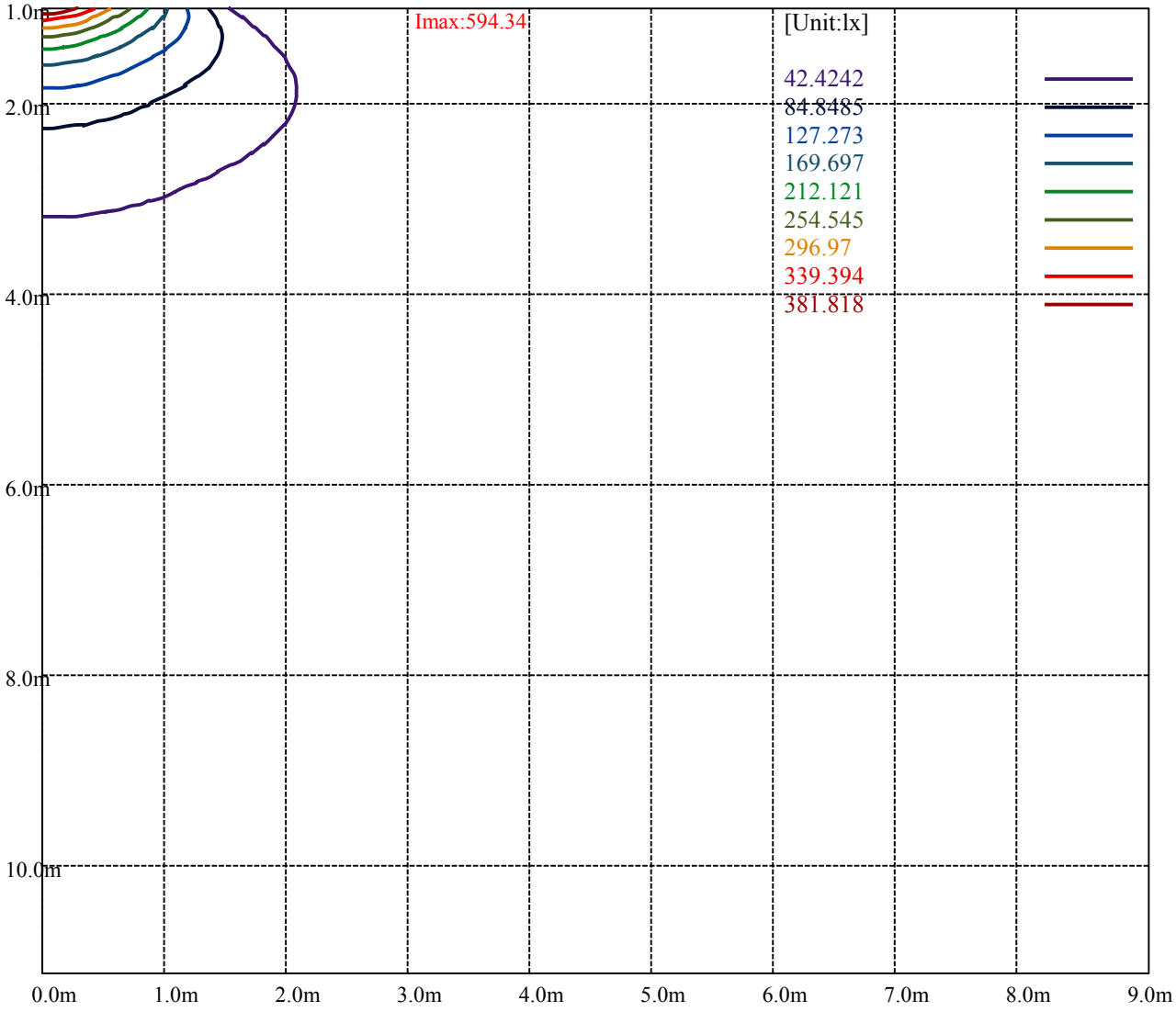
ISO illuminance diagram



(10%Emax) 4.7138
(20%Emax) 9.427611
(30%Emax) 14.14145
(40%Emax) 18.85522
(50%Emax) 23.569
(60%Emax) 28.28278
(70%Emax) 32.99667
(80%Emax) 37.71045
(90%Emax) 42.42422

Equipment: 123 Date: 2018/10/15 Operator: 234
Temperature(°C): 345 Humidity(%): 456%

Space ISO Lux diagram



Equipment: 123
Temperature(°C): 345

Date: 2018/10/15
Humidity(%): 456%

Operator: 234

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Luminance Limitting Curve(no luminous side)

Luminance Table

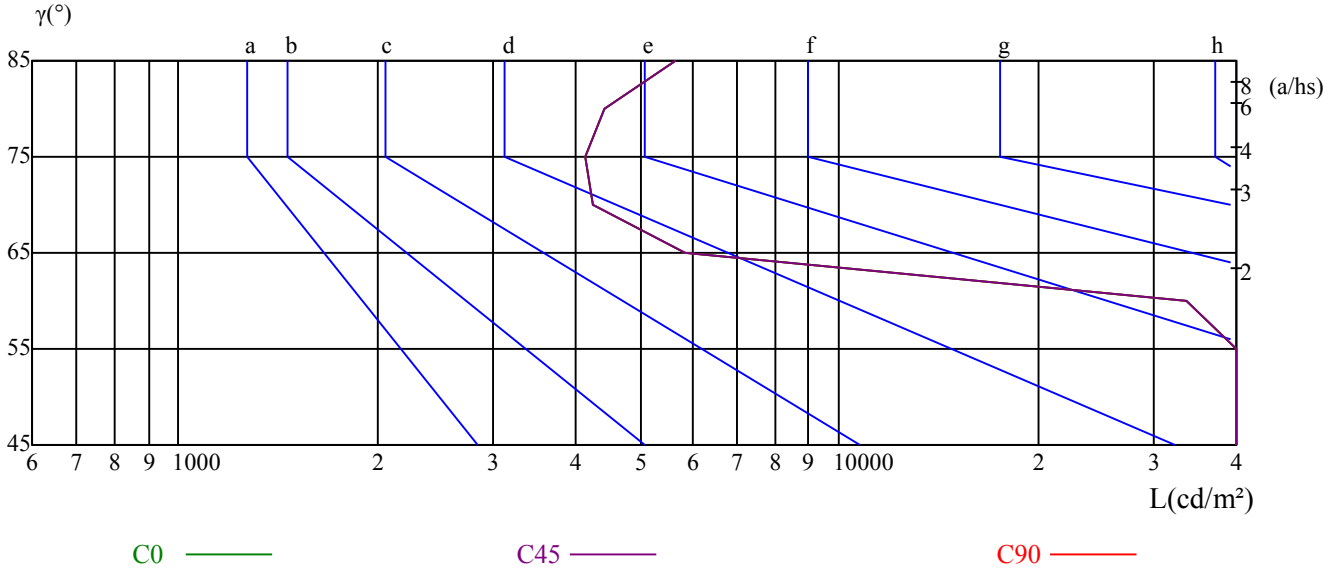
γ	45	50	55	60	65	70	75	80	85
C0	46650	52836	53885	33658	5848	4245	4131	4405	5640
C45	46650	52836	53885	33658	5848	4245	4131	4405	5640
C90	46650	52836	53885	33658	5848	4245	4131	4405	5640

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
5848	5848	5848	4131	4131	4131	5640	5640	5640

Glare Table

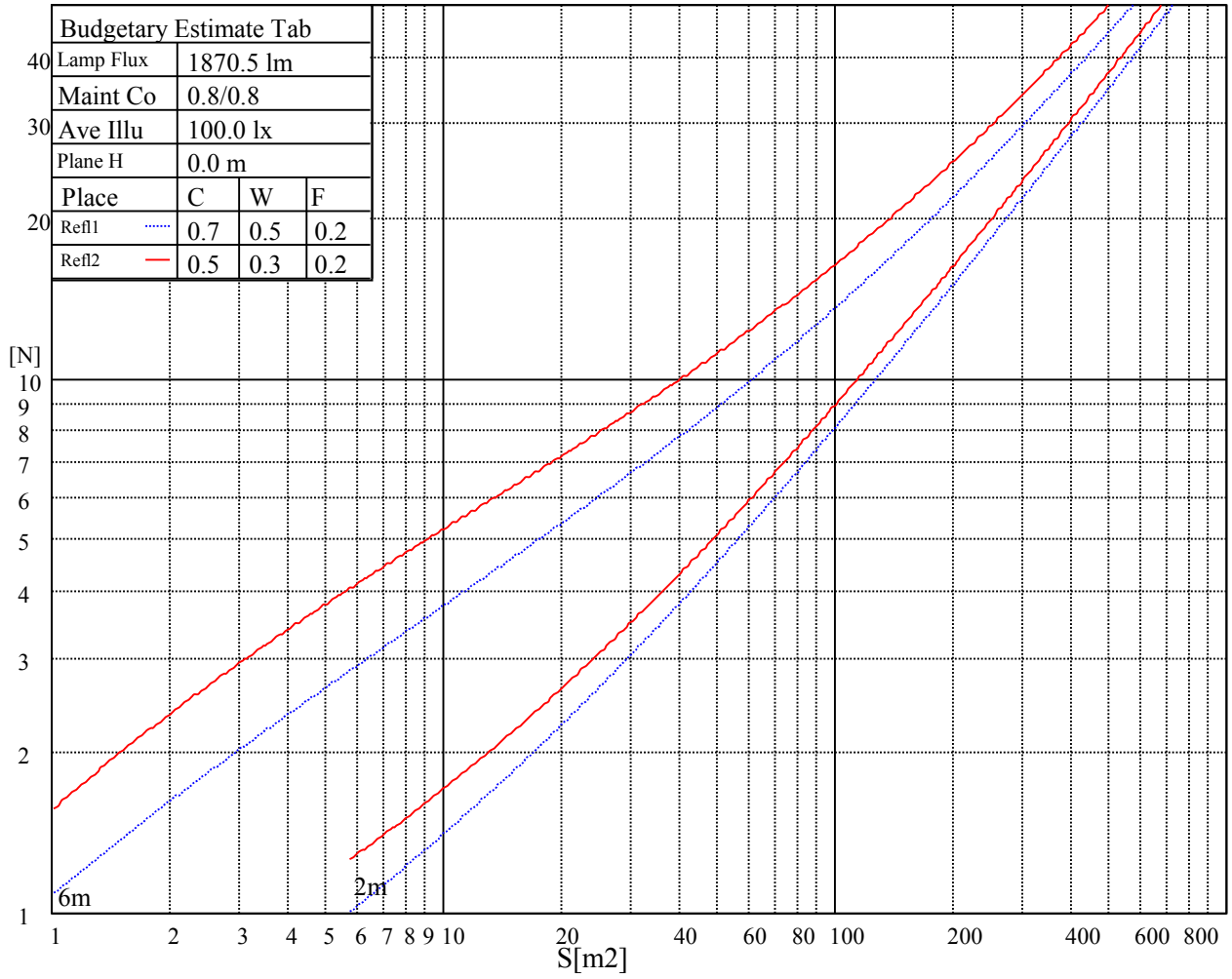
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

Luminance Limitting Curve



Equipment: 123 Date: 2018/10/15 Operator: 234
Temperature(°C): 345 Humidity(%): 456%

Budgetary Estimate Table

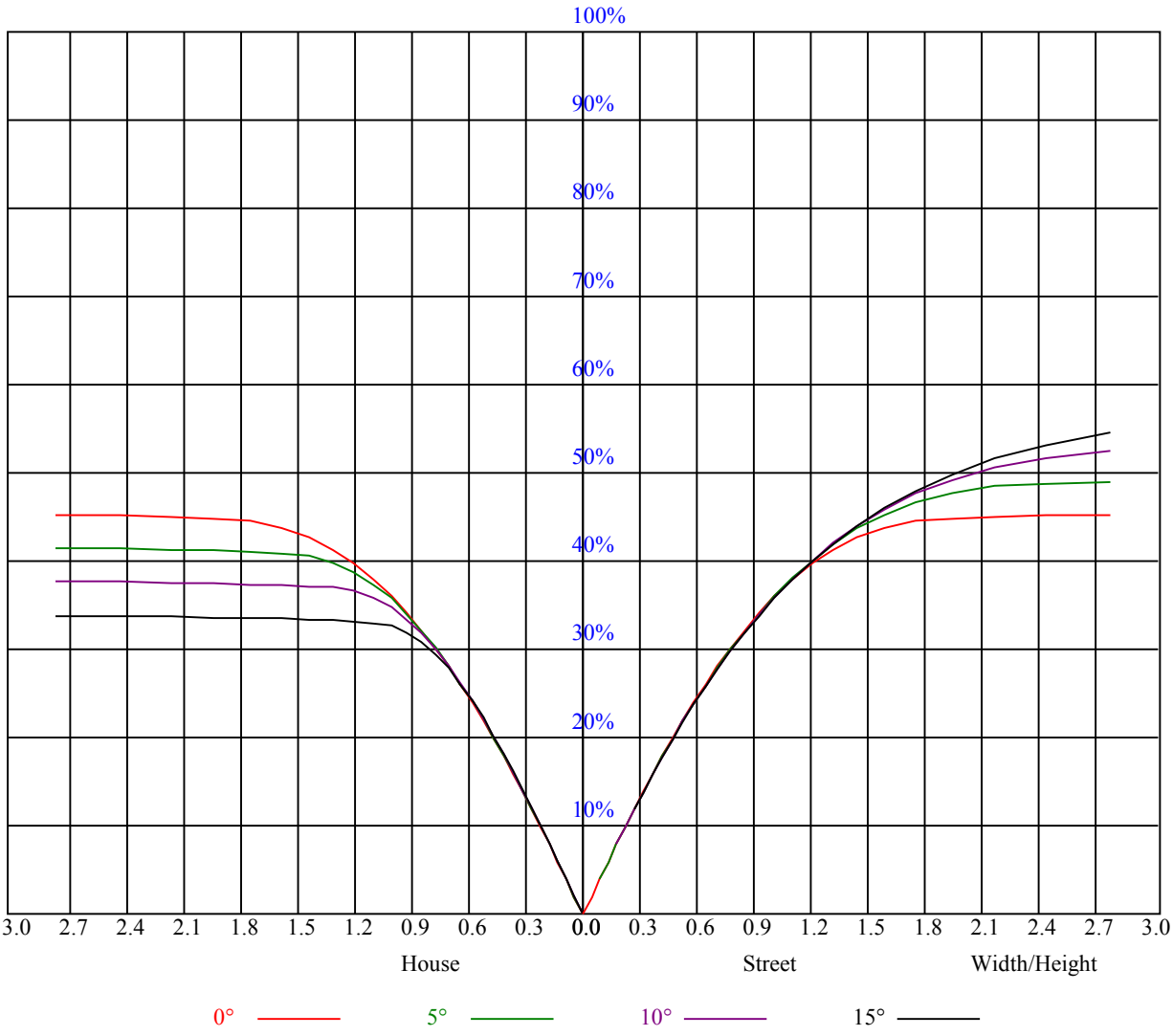


Equipment: 123 Date: 2018/10/15 Operator: 234
Temperature(°C): 345 Humidity(%): 456%

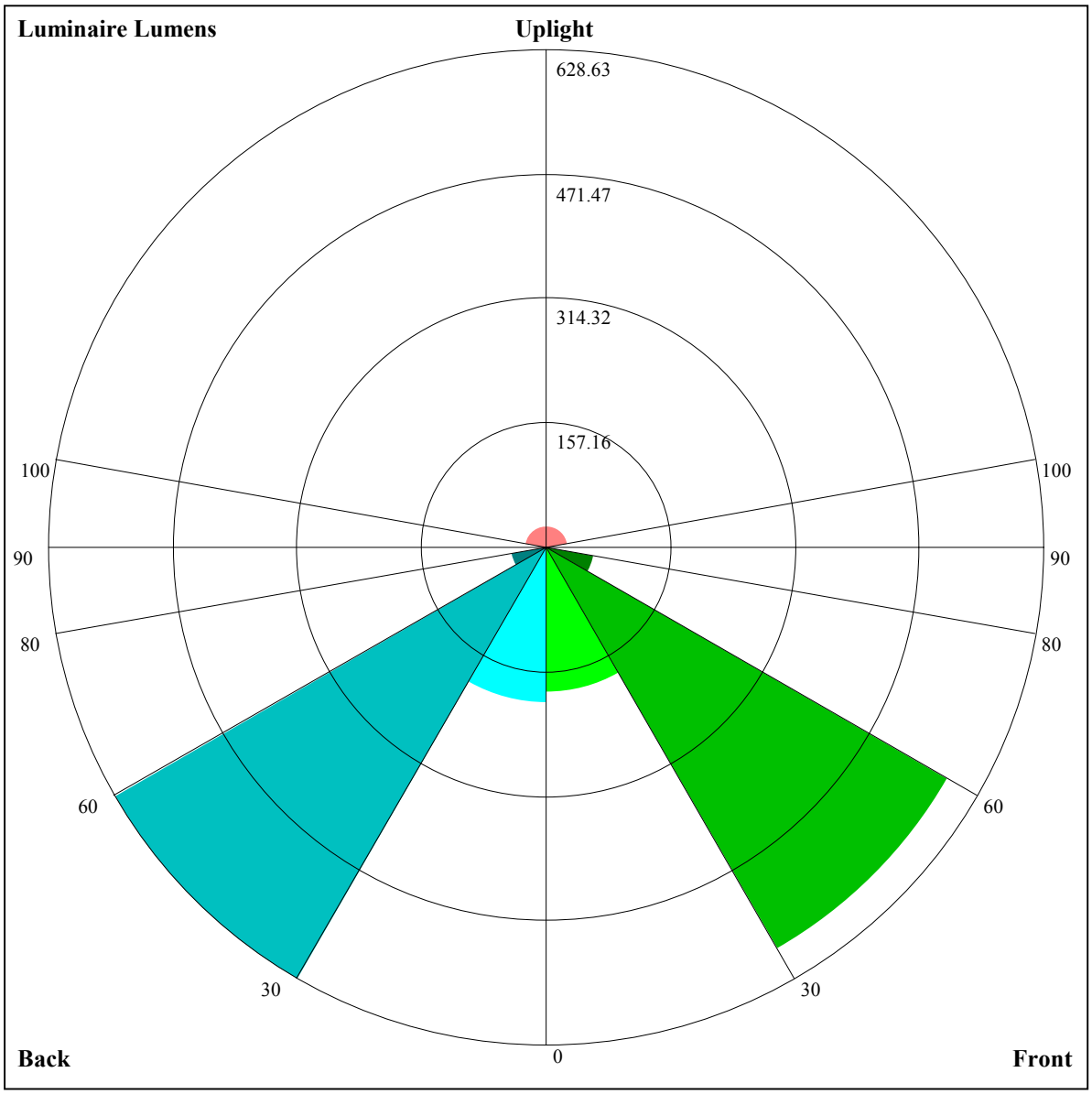
Utilization factor table for indoor luminaire

RHOCC	80			70			50			30			10			0
RHOW	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	COEFFCIENTS OF UTILIZATION RHOFC=20 CU															
0	1.09	1.09	1.09	1.06	1.06	1.06	1.02	1.02	1.02	0.97	0.97	0.97	0.93	0.93	0.93	0.91
1	0.97	0.94	0.91	0.95	0.92	0.89	0.91	0.89	0.86	0.88	0.86	0.84	0.84	0.83	0.81	0.79
2	0.85	0.80	0.75	0.84	0.79	0.74	0.81	0.76	0.72	0.78	0.74	0.71	0.75	0.72	0.69	0.67
3	0.75	0.68	0.62	0.74	0.67	0.62	0.71	0.65	0.61	0.69	0.64	0.60	0.66	0.62	0.59	0.57
4	0.66	0.58	0.53	0.65	0.58	0.52	0.63	0.56	0.51	0.61	0.55	0.51	0.59	0.54	0.50	0.48
5	0.59	0.51	0.45	0.58	0.50	0.44	0.56	0.49	0.44	0.54	0.48	0.43	0.52	0.47	0.43	0.41
6	0.52	0.44	0.38	0.51	0.44	0.38	0.50	0.43	0.38	0.48	0.42	0.37	0.47	0.41	0.37	0.35
7	0.47	0.39	0.33	0.46	0.38	0.33	0.45	0.38	0.33	0.43	0.37	0.32	0.42	0.36	0.32	0.30
8	0.42	0.34	0.29	0.42	0.34	0.29	0.40	0.33	0.29	0.39	0.33	0.28	0.38	0.32	0.28	0.26
9	0.38	0.31	0.25	0.38	0.30	0.25	0.37	0.30	0.25	0.36	0.30	0.25	0.35	0.29	0.25	0.23
10	0.35	0.28	0.23	0.34	0.27	0.23	0.34	0.27	0.23	0.33	0.27	0.22	0.32	0.26	0.22	0.21

Coefficient Utilization Curve



LCS Graph



Luminaire Lumens:

FL=182.96,FM=585.2,FH=61.86,FVH=4.71

BL=195.97,BM=628.63,BH=46.12,BVH=4.61

UL=5.62,UH=26.72

BUG Rating:B1-U2-G0

Intensity data(cd)

C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	425.19	424.46	423.84	423.56	423.56	423.90	424.13	424.86	425.03
15.0	426.04	425.98	426.71	427.44	428.06	428.46	429.08	428.96	429.69
30.0	424.97	425.03	425.87	426.77	427.28	428.06	428.74	429.30	429.41
45.0	424.18	424.86	425.53	426.32	427.05	427.56	428.23	428.96	429.86
60.0	421.76	422.72	423.68	425.03	426.32	427.56	428.29	429.36	430.71
75.0	417.88	419.01	420.19	421.26	422.55	424.13	425.64	427.73	429.47
90.0	417.26	418.28	419.85	421.43	422.78	424.07	425.81	427.73	429.69
105.0	425.76	426.49	427.56	428.29	429.86	431.10	432.17	434.36	436.50
120.0	426.49	428.06	429.69	431.49	432.84	434.19	435.71	437.85	440.38
135.0	427.28	428.01	428.96	430.14	431.21	432.34	433.69	435.04	437.51
150.0	427.11	428.18	429.24	430.37	431.16	432.06	433.24	435.04	437.06
165.0	426.99	427.11	427.95	429.02	429.64	430.09	430.88	431.72	433.24
180.0	425.19	425.98	427.11	428.18	428.46	428.74	429.58	430.54	431.72
195.0	426.04	426.09	426.32	426.94	426.88	426.77	426.38	426.38	426.77
210.0	424.97	424.46	424.24	424.01	423.51	422.78	422.33	422.16	422.33
225.0	424.18	423.56	423.17	422.94	422.33	421.48	420.81	420.47	420.41
240.0	421.76	421.37	420.75	419.96	419.34	418.33	417.38	416.59	416.03
255.0	417.88	417.71	417.60	417.49	417.26	417.09	416.31	415.80	415.41
270.0	417.26	416.70	416.25	415.97	415.46	414.73	414.23	413.55	413.44
285.0	425.76	425.42	425.14	425.14	424.74	423.96	422.83	422.27	422.38
300.0	426.49	425.48	424.58	424.29	424.41	424.18	424.07	423.96	424.29
315.0	427.28	426.71	426.38	426.32	426.21	426.32	425.81	425.87	425.93
330.0	427.11	426.77	426.83	426.99	427.05	427.28	427.39	427.22	427.39
345.0	426.99	427.11	427.56	428.57	428.96	429.13	428.74	428.79	428.79
360.0	425.19	424.46	423.84	423.56	423.56	423.90	424.13	424.86	425.03

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	425.48	426.21	426.60	426.83	426.88	426.71	426.15	425.64	424.58
15.0	429.98	430.03	430.09	429.64	429.19	428.85	428.34	427.56	426.83
30.0	430.37	430.93	431.10	431.44	431.78	432.11	432.06	432.17	432.34
45.0	431.38	432.79	434.14	435.09	436.22	437.06	438.02	439.26	440.04
60.0	432.73	434.36	436.50	438.24	440.21	442.07	443.81	445.44	446.96
75.0	431.83	434.76	437.29	439.71	442.63	445.56	448.03	450.79	453.77
90.0	432.34	435.21	438.24	440.94	444.88	447.81	451.63	455.57	458.83
105.0	438.86	442.52	445.67	448.71	453.04	457.03	460.74	465.30	469.46
120.0	442.91	445.84	449.38	453.21	456.69	460.74	465.19	469.52	473.85
135.0	440.21	443.42	446.46	450.23	453.49	457.82	461.48	465.75	471.15
150.0	439.88	442.07	445.22	448.76	452.76	456.92	460.80	465.24	471.54
165.0	434.42	436.28	438.30	441.17	444.77	448.20	451.91	456.75	461.98
180.0	433.41	435.38	437.57	440.10	442.91	446.23	450.17	453.88	457.59
195.0	427.61	428.57	430.03	431.55	433.69	435.83	438.36	441.11	444.54
210.0	422.94	424.29	425.25	426.66	428.01	429.75	431.66	433.69	436.73
225.0	420.47	420.92	421.71	422.44	423.68	424.46	425.31	426.32	427.95
240.0	415.97	415.97	416.36	416.76	417.38	418.50	419.34	420.13	421.26
255.0	415.13	415.18	415.24	415.46	416.08	416.53	417.43	417.88	418.28
270.0	413.55	413.61	413.83	414.17	414.68	414.90	415.74	416.31	416.42
285.0	422.55	422.72	422.55	423.56	424.29	424.86	425.25	426.32	426.60
300.0	424.24	424.74	424.97	425.48	426.04	426.15	426.09	425.98	425.81
315.0	426.54	426.66	426.83	426.77	426.26	426.32	425.87	425.59	425.42
330.0	427.39	427.22	426.94	426.66	426.38	426.09	425.87	425.08	424.63
345.0	428.57	428.29	427.89	427.67	427.11	426.38	425.59	423.84	421.99
360.0	425.48	426.21	426.60	426.83	426.88	426.71	426.15	425.64	424.58

Intensity data(cd)

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	423.68	422.44	420.86	419.79	418.56	416.87	415.69	414.34	413.04
15.0	425.64	425.08	423.96	423.17	422.78	422.27	421.99	421.93	422.33
30.0	432.62	432.06	432.28	432.51	432.28	432.51	433.07	433.58	434.25
45.0	441.11	441.79	442.63	443.76	444.99	446.68	449.04	451.58	454.33
60.0	448.76	450.39	452.48	454.84	456.98	459.84	462.83	465.86	469.24
75.0	456.08	459.39	462.71	466.76	471.09	474.98	479.36	485.33	490.78
90.0	462.49	466.09	471.21	475.59	479.93	485.49	490.39	495.90	502.03
105.0	473.85	478.58	483.98	488.59	494.66	500.18	506.70	513.84	519.75
120.0	480.15	485.04	490.44	497.64	503.44	509.63	516.60	523.91	530.72
135.0	476.27	481.39	487.97	494.94	501.13	508.95	516.21	524.42	531.28
150.0	477.00	482.40	489.94	495.84	502.20	509.63	517.67	524.81	532.58
165.0	467.21	473.63	479.19	484.88	491.68	498.21	505.63	513.84	520.88
180.0	462.77	467.16	472.05	478.52	484.20	489.83	496.74	504.23	511.26
195.0	448.31	452.25	457.31	461.48	466.71	472.22	478.74	484.37	489.94
210.0	439.37	442.29	445.67	449.38	453.94	457.82	462.99	468.51	473.63
225.0	429.36	431.27	433.80	435.77	438.02	441.11	444.54	447.75	452.08
240.0	422.49	423.84	425.36	426.94	428.18	430.37	432.56	435.09	438.19
255.0	418.44	418.84	419.79	420.30	420.92	421.99	422.94	423.96	425.53
270.0	417.15	417.71	418.33	418.22	418.84	418.56	419.18	419.18	419.85
285.0	426.60	426.88	427.22	427.11	426.83	426.15	426.09	425.48	425.42
300.0	425.59	425.87	425.42	424.63	424.29	423.79	423.00	422.27	420.86
315.0	424.74	424.63	424.24	423.62	422.78	422.04	420.81	419.74	418.73
330.0	423.68	423.00	422.10	420.86	419.01	417.77	416.14	414.68	413.21
345.0	420.36	418.73	417.54	416.14	414.90	413.66	412.93	411.47	410.29
360.0	423.68	422.44	420.86	419.79	418.56	416.87	415.69	414.34	413.04

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	412.20	412.09	412.31	413.04	414.28	416.53	418.44	421.76	426.04
15.0	422.66	423.68	425.31	427.05	429.58	433.80	437.68	441.90	448.31
30.0	435.21	437.40	439.93	442.01	446.34	450.45	454.39	460.52	466.88
45.0	456.81	460.07	463.16	467.44	471.88	477.68	483.64	489.83	497.42
60.0	474.30	478.52	482.68	488.59	494.44	500.29	507.43	514.58	520.26
75.0	495.73	502.88	508.22	514.41	521.27	528.47	534.99	543.71	552.66
90.0	508.61	514.74	521.44	527.96	536.01	543.09	550.58	559.07	567.23
105.0	526.39	534.21	540.73	547.03	555.19	562.16	570.43	578.53	586.80
120.0	538.43	546.13	554.79	563.57	571.73	580.95	589.95	597.83	605.70
135.0	538.93	547.20	554.91	562.44	569.93	579.49	588.77	596.53	605.87
150.0	540.68	549.51	559.01	568.01	577.69	588.04	596.70	605.31	614.87
165.0	528.41	539.16	547.71	555.98	566.38	575.04	582.58	593.27	602.38
180.0	519.24	527.12	536.18	545.34	553.73	563.57	573.08	581.46	589.84
195.0	497.98	505.35	512.44	521.04	530.04	537.75	548.33	556.20	564.81
210.0	479.25	487.18	494.04	500.29	508.61	517.22	524.81	534.04	543.15
225.0	456.36	461.53	467.61	473.18	479.25	486.73	493.54	499.78	510.24
240.0	441.34	444.94	450.06	454.56	459.62	466.20	471.71	477.73	484.31
255.0	427.16	429.58	432.17	435.09	439.09	442.91	446.46	451.86	457.26
270.0	421.09	422.04	423.90	426.09	428.51	431.16	434.36	437.46	441.73
285.0	425.42	425.53	426.04	426.60	427.67	429.58	431.72	434.48	438.02
300.0	420.08	419.91	419.23	419.40	419.63	420.41	421.48	422.83	425.53
315.0	417.38	415.80	414.84	413.94	413.83	413.78	414.51	415.86	417.60
330.0	412.09	410.63	410.12	408.88	408.94	408.99	410.23	411.53	413.38
345.0	409.22	408.54	408.32	408.04	408.71	410.12	411.98	414.68	418.39
360.0	412.20	412.09	412.31	413.04	414.28	416.53	418.44	421.76	426.04

Intensity data(cd)

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	430.48	434.87	442.97	449.78	456.13	465.53	475.03	483.81	494.04
15.0	454.39	461.25	469.97	477.79	486.17	496.74	504.17	514.63	525.94
30.0	473.63	481.28	488.70	496.52	506.70	514.86	523.97	535.33	544.67
45.0	505.80	513.23	520.82	531.17	539.27	548.10	557.10	566.89	574.54
60.0	528.41	535.39	543.54	552.49	560.31	568.01	577.58	584.94	592.14
75.0	560.19	568.97	576.00	584.49	592.65	599.29	606.09	614.19	619.93
90.0	574.76	581.85	590.18	597.04	603.79	611.61	619.20	625.73	630.73
105.0	594.51	603.00	609.98	618.02	625.22	631.24	637.93	643.44	647.44
120.0	615.21	622.41	629.44	638.16	644.57	649.91	654.81	659.19	662.01
135.0	615.54	623.64	631.74	640.13	646.82	652.56	657.51	661.78	664.54
150.0	622.63	629.66	637.20	644.23	650.76	656.16	661.44	665.27	669.04
165.0	609.19	618.69	625.95	632.76	640.58	646.59	651.54	657.68	661.50
180.0	601.43	608.63	616.73	625.16	632.14	638.21	644.74	650.48	655.14
195.0	575.16	582.36	589.73	600.02	607.50	612.84	621.96	628.09	632.93
210.0	551.14	560.25	568.01	576.39	584.04	591.13	597.43	605.36	610.99
225.0	517.89	524.19	533.93	542.53	549.17	558.11	565.93	573.08	580.33
240.0	491.40	497.87	505.29	513.06	519.81	527.85	534.88	542.98	550.97
255.0	461.76	468.90	474.36	480.71	488.70	494.89	501.24	508.73	515.36
270.0	447.13	451.86	457.20	463.67	469.35	474.69	482.18	488.19	495.06
285.0	441.56	445.44	450.00	455.57	461.93	467.49	473.79	481.39	488.03
300.0	428.23	431.49	436.39	440.78	445.67	451.91	458.61	464.79	472.39
315.0	420.58	423.51	428.12	433.41	438.64	444.99	453.60	461.25	469.24
330.0	416.19	419.46	422.44	429.41	434.93	440.49	449.33	457.99	466.37
345.0	421.99	426.49	431.44	438.02	445.39	452.87	460.69	471.66	481.22
360.0	430.48	434.87	442.97	449.78	456.13	465.53	475.03	483.81	494.04

C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	504.73	513.34	525.88	535.78	546.98	556.88	565.09	572.01	576.84
15.0	533.81	544.33	555.02	562.22	569.81	578.87	583.76	586.63	585.90
30.0	553.33	564.19	572.57	579.66	587.31	593.44	596.42	597.99	594.56
45.0	582.92	590.51	596.93	602.61	606.88	609.30	608.63	604.29	596.08
60.0	599.63	606.60	611.44	615.15	617.12	617.23	614.19	608.23	597.09
75.0	623.76	627.86	629.94	630.84	628.71	624.21	616.39	601.99	588.15
90.0	634.73	637.43	638.10	638.10	635.12	629.49	621.51	610.37	590.34
105.0	650.48	651.15	651.09	649.18	643.39	635.79	626.68	611.94	591.75
120.0	663.81	663.53	661.84	657.11	650.42	640.24	626.18	608.68	586.01
135.0	666.28	666.34	665.38	662.23	656.38	645.75	634.22	619.59	596.70
150.0	670.28	670.56	669.15	665.49	658.01	645.24	632.36	612.90	581.06
165.0	664.54	667.18	667.01	665.89	661.16	652.89	641.70	624.04	598.73
180.0	659.42	661.67	662.12	659.98	655.59	647.33	633.49	616.44	593.33
195.0	638.89	643.11	645.24	645.86	644.68	640.46	630.68	618.41	601.82
210.0	615.43	620.66	624.26	626.40	625.05	621.11	614.31	599.91	586.29
225.0	586.29	591.81	596.87	600.69	603.62	603.45	600.08	594.23	581.46
240.0	557.72	564.08	570.88	576.06	579.32	580.56	577.91	572.74	562.73
255.0	522.28	530.27	536.74	541.74	547.31	552.49	554.74	554.40	550.46
270.0	504.17	510.19	518.06	526.11	531.39	537.41	541.35	542.59	540.51
285.0	495.28	504.28	512.16	519.47	527.91	535.33	540.68	544.50	545.34
300.0	480.66	488.03	496.91	505.13	514.01	522.79	530.61	537.02	542.76
315.0	479.53	487.97	496.74	506.53	515.70	526.61	535.11	541.86	549.00
330.0	475.71	485.78	493.99	505.63	514.97	524.19	535.11	543.09	549.51
345.0	490.67	502.99	512.61	522.17	534.04	543.21	551.64	560.87	564.92
360.0	504.73	513.34	525.88	535.78	546.98	556.88	565.09	572.01	576.84

Intensity data(cd)

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	577.13	572.79	559.41	539.21	509.40	462.83	407.08	327.94	235.91
15.0	579.26	567.79	545.46	512.89	472.56	413.33	348.53	263.93	179.78
30.0	588.04	574.71	556.20	525.54	488.25	432.23	360.68	278.21	203.85
45.0	580.22	561.21	534.43	486.62	436.56	376.82	301.33	221.63	155.19
60.0	580.95	560.64	530.33	489.15	441.73	385.03	304.82	238.33	174.43
75.0	565.54	530.10	497.53	445.28	373.61	319.16	256.67	171.73	123.41
90.0	569.98	541.69	496.97	451.63	398.59	331.59	261.45	198.68	132.98
105.0	569.08	535.73	491.18	438.81	377.33	314.61	252.11	177.58	128.14
120.0	548.72	509.63	463.33	403.03	335.42	272.08	201.43	139.05	95.01
135.0	565.48	530.89	474.58	412.26	354.60	277.37	211.28	147.04	98.61
150.0	547.14	504.34	439.20	379.29	313.88	230.23	168.69	118.52	74.59
165.0	569.98	527.40	478.01	408.38	336.04	269.04	196.65	134.89	91.69
180.0	554.18	513.11	462.71	395.94	319.78	248.74	174.04	115.09	78.47
195.0	574.71	540.62	502.14	439.54	375.19	303.13	221.12	150.13	105.30
210.0	561.60	521.78	486.00	429.58	352.18	290.81	219.38	132.92	92.64
225.0	567.56	548.21	514.24	468.11	418.73	347.01	267.86	199.74	129.71
240.0	550.52	532.74	498.60	465.92	411.53	336.43	277.03	198.17	120.43
255.0	544.56	533.87	520.09	490.56	449.21	398.25	330.30	255.60	192.88
270.0	533.87	527.12	514.86	491.23	451.97	402.53	335.42	260.10	188.10
285.0	542.31	536.40	526.56	507.66	472.73	425.19	365.63	278.94	203.96
300.0	544.50	542.98	535.84	524.76	505.24	466.76	408.21	340.31	253.74
315.0	551.08	549.23	539.16	521.83	494.83	442.29	390.66	306.51	201.54
330.0	555.41	556.71	552.71	537.98	514.29	479.42	422.78	344.70	261.45
345.0	566.49	561.43	551.31	527.74	485.49	444.49	384.97	278.27	205.59
360.0	577.13	572.79	559.41	539.21	509.40	462.83	407.08	327.94	235.91

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	156.99	92.48	58.11	44.04	36.79	32.12	29.19	26.78	24.24
15.0	117.68	71.44	49.05	39.99	34.82	30.83	28.41	26.44	24.75
30.0	137.93	79.03	52.93	40.05	33.81	30.09	27.84	25.82	24.08
45.0	94.11	56.31	41.12	33.81	30.38	27.79	25.82	24.36	23.18
60.0	112.33	69.36	48.83	38.14	33.69	31.05	28.86	27.28	25.65
75.0	80.78	52.09	39.77	35.04	32.06	29.98	28.29	26.33	24.81
90.0	87.08	55.29	40.89	35.44	32.63	30.71	29.31	27.73	25.37
105.0	82.86	52.54	41.74	37.18	34.43	32.46	30.94	29.25	27.79
120.0	61.76	46.13	37.80	33.81	31.50	29.81	27.96	26.72	25.65
135.0	63.90	45.17	35.27	31.61	29.36	27.51	26.38	25.26	24.30
150.0	55.46	41.63	34.43	31.67	29.64	27.56	26.49	25.37	24.08
165.0	64.24	45.62	38.19	34.09	30.94	29.19	27.73	26.27	24.81
180.0	53.33	41.51	34.76	31.16	29.03	27.34	25.54	24.08	22.95
195.0	66.49	46.46	37.57	32.46	29.87	27.84	26.21	24.92	23.51
210.0	61.93	42.02	34.71	30.77	27.96	26.10	24.75	23.51	22.56
225.0	79.43	48.94	35.89	30.83	27.96	25.65	24.19	23.06	21.88
240.0	81.06	53.04	36.45	31.95	28.86	26.49	24.75	23.51	22.28
255.0	124.76	67.16	45.00	35.61	30.88	28.13	26.21	24.41	23.01
270.0	112.33	66.09	41.57	33.08	29.48	27.17	24.92	23.23	21.71
285.0	131.74	67.33	44.21	35.38	31.11	28.35	26.44	24.69	23.46
300.0	174.83	100.91	56.31	39.99	33.24	29.59	27.28	25.48	23.79
315.0	132.98	70.93	42.30	35.16	30.71	26.89	25.20	23.68	22.33
330.0	168.24	103.56	60.08	42.13	35.78	31.11	28.07	25.93	24.19
345.0	132.24	68.79	51.02	40.95	34.71	30.60	27.96	25.65	23.96
360.0	156.99	92.48	58.11	44.04	36.79	32.12	29.19	26.78	24.24

Intensity data(cd)

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	22.56	21.38	20.14	19.01	18.17	17.21	16.31	15.58	14.74
15.0	22.84	21.43	20.14	18.79	17.66	16.59	15.69	14.79	13.89
30.0	22.78	21.38	20.03	18.62	17.21	16.14	15.13	14.06	13.28
45.0	21.99	20.93	19.74	18.39	17.38	16.43	15.24	14.12	13.05
60.0	24.24	22.95	21.71	20.31	19.18	18.11	16.82	15.81	14.79
75.0	23.34	22.05	20.93	19.29	17.38	15.92	14.63	13.22	12.21
90.0	23.74	22.11	20.08	17.27	15.19	13.61	12.38	11.48	10.63
105.0	26.49	25.03	23.68	22.22	20.64	19.13	17.94	16.54	15.24
120.0	24.30	23.01	21.66	20.19	19.07	18.06	16.71	15.75	14.46
135.0	23.29	22.67	21.38	19.91	18.68	17.49	16.43	15.02	13.84
150.0	23.23	21.88	20.25	18.39	17.16	16.03	15.13	14.12	13.22
165.0	23.63	22.16	20.81	19.58	18.45	17.49	16.48	15.36	14.51
180.0	21.83	21.09	19.97	18.84	17.83	16.99	16.09	15.24	14.40
195.0	22.28	21.15	20.03	18.84	17.83	16.99	15.92	14.96	14.12
210.0	21.32	19.91	18.56	17.27	16.03	15.08	14.23	13.28	12.54
225.0	21.15	20.42	19.07	17.94	17.04	15.98	14.96	13.78	12.66
240.0	21.09	19.91	18.79	17.89	16.82	15.81	14.91	13.95	12.77
255.0	21.88	20.64	19.58	18.39	17.04	15.98	14.91	13.67	12.83
270.0	20.14	18.84	17.38	15.47	13.67	12.60	11.59	10.80	10.07
285.0	22.16	21.04	19.97	18.62	17.27	16.20	15.19	14.06	13.22
300.0	22.56	21.43	20.31	19.29	18.17	17.16	16.14	15.30	14.34
315.0	21.38	20.25	18.96	17.78	16.82	15.86	14.91	13.95	12.94
330.0	22.33	21.15	19.63	18.28	16.93	15.92	14.96	14.12	13.44
345.0	22.28	20.81	19.69	18.45	17.33	16.43	15.64	14.74	14.06
360.0	22.56	21.38	20.14	19.01	18.17	17.21	16.31	15.58	14.74

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	14.01	13.44	12.49	11.36	9.96	8.38	6.81	5.40	5.18
15.0	13.16	12.32	11.25	10.41	9.39	7.93	6.36	5.12	5.12
30.0	12.54	11.70	10.91	10.07	9.17	8.21	6.75	5.51	5.01
45.0	11.98	11.03	10.13	9.06	8.16	7.09	5.96	5.06	4.95
60.0	13.50	12.38	11.03	9.68	8.49	7.37	6.36	5.29	4.84
75.0	11.36	10.29	9.06	8.04	7.20	6.30	5.51	4.89	4.78
90.0	9.84	9.11	8.27	7.48	6.75	6.24	5.57	4.95	4.73
105.0	14.12	12.83	11.36	10.13	9.00	7.88	6.75	5.91	5.57
120.0	13.22	12.21	10.74	9.45	8.49	7.43	6.36	5.57	5.51
135.0	12.66	11.76	10.69	9.84	8.83	7.76	6.64	5.57	5.46
150.0	12.38	11.53	10.58	9.68	8.61	7.31	5.96	5.34	5.34
165.0	13.61	12.54	11.59	10.46	9.28	7.93	6.30	5.29	5.23
180.0	13.56	12.77	11.70	9.73	8.49	6.98	5.63	5.18	5.18
195.0	13.11	12.26	11.31	10.13	9.11	7.54	6.19	5.12	5.06
210.0	11.81	10.97	10.13	9.28	8.33	7.03	5.63	5.01	5.01
225.0	11.76	10.91	10.01	9.23	8.21	7.20	5.96	5.12	4.95
240.0	11.98	11.03	9.73	8.78	7.88	6.86	5.68	4.89	4.84
255.0	11.93	11.03	9.90	9.00	8.04	7.14	5.85	5.12	4.78
270.0	9.39	8.72	7.99	7.20	6.69	6.02	5.34	4.84	4.73
285.0	12.43	11.48	10.52	9.73	8.89	7.76	6.47	5.68	5.57
300.0	13.44	12.54	11.53	10.41	9.34	8.27	7.03	5.85	5.51
315.0	12.15	11.36	10.52	9.79	8.94	7.76	6.47	5.51	5.46
330.0	12.66	11.98	11.14	10.29	9.45	8.38	6.98	5.68	5.34
345.0	13.39	12.54	11.76	10.80	9.73	8.27	6.53	5.29	5.23
360.0	14.01	13.44	12.49	11.36	9.96	8.38	6.81	5.40	5.18

Intensity data(cd)

C/γ(°)	90.0
0.0	5.18
15.0	5.12
30.0	5.01
45.0	4.95
60.0	4.89
75.0	4.78
90.0	4.73
105.0	5.57
120.0	5.51
135.0	5.46
150.0	5.34
165.0	5.23
180.0	5.18
195.0	5.12
210.0	5.01
225.0	4.89
240.0	4.89
255.0	4.78
270.0	4.73
285.0	5.57
300.0	5.51
315.0	5.46
330.0	5.34
345.0	5.29
360.0	5.18