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Nata

Client:

LumCAT: 2-2162-M

Luminaire: BJB 47.360.5080

Report No: nt0100

Test No: GC2020031319

LampCAT: LUMILEDS LUXEON 1208

Lamp flux(lm): 1783.0

Number of Lamps: 1

Length(mm): 0

Phm Type: C

Voltage(V): 220.3000

Current(A): 0.1110

Power (W): 23.5300

PF: 0.9580

Ballast type: AC

Width(mm): 0

Height(mm): 0

Photometric Results

Lumens(lm): 1363.52, Efficiency(%): 76.47% , Luminous Efficacy(lm/W): 57.95

Central intensity(cd): 8385.014, Maximum intensity(cd): 8385.014

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=19.0

[C90/270]Total=19.0

Field angle(10%Imax): [C0/180]Total=43.0

[C90/270]Total=43.0

Maximum s/h(1/2): C0_180=0.32 C90_270=0.32

Maximum s/h(1/4): C0_180=0.36 C90_270=0.36

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 76.47%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.854%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	8385.015	0.000	0	.000%	.000%
1.0	8305.491	7.986	7.986	.448%	.586%
2.0	8082.639	23.522	31.508	1.319%	2.311%
3.0	7712.398	37.777	69.284	2.119%	5.081%
4.0	7252.135	50.091	119.375	2.809%	8.755%
5.0	6692.453	59.989	179.364	3.364%	13.154%
6.0	6182.770	67.663	247.027	3.795%	18.117%
7.0	5549.712	72.823	319.85	4.084%	23.458%
8.0	4986.376	75.405	395.255	4.229%	28.988%
9.0	4464.570	76.595	471.85	4.296%	34.605%
10.0	3927.219	75.943	547.793	4.259%	40.175%
11.0	3499.323	74.206	621.999	4.162%	45.617%
12.0	3105.184	72.197	694.196	4.049%	50.912%
13.0	2727.983	69.225	763.421	3.883%	55.989%
14.0	2418.647	65.876	829.297	3.695%	60.820%
15.0	2145.969	62.665	891.962	3.515%	65.416%
16.0	1891.273	59.157	951.119	3.318%	69.755%
17.0	1682.690	55.656	1006.775	3.121%	73.836%
18.0	1436.404	51.427	1058.202	2.884%	77.608%
19.0	1235.767	46.490	1104.693	2.607%	81.018%
20.0	1059.168	42.004	1146.696	2.356%	84.098%
21.0	900.938	37.638	1184.334	2.111%	86.858%
22.0	768.207	33.542	1217.876	1.881%	89.318%
23.0	635.146	29.446	1247.323	1.651%	91.478%
24.0	497.850	24.771	1272.094	1.389%	93.295%
25.0	372.358	19.787	1291.881	1.110%	94.746%
26.0	282.863	15.467	1307.347	.867%	95.880%
27.0	200.561	11.827	1319.174	.663%	96.747%
28.0	122.371	8.176	1327.35	.459%	97.347%
29.0	67.615	4.971	1332.321	.279%	97.712%
30.0	41.166	2.937	1335.258	.165%	97.927%
31.0	13.005	1.507	1336.765	.085%	98.038%
32.0	7.674	0.592	1337.358	.033%	98.081%
33.0	6.380	0.414	1337.772	.023%	98.111%
34.0	6.090	0.377	1338.149	.021%	98.139%
35.0	5.876	0.372	1338.521	.021%	98.166%
36.0	5.684	0.368	1338.889	.021%	98.193%
37.0	5.528	0.366	1339.255	.021%	98.220%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	5.394	0.365	1339.619	.020%	98.247%
39.0	5.278	0.364	1339.983	.020%	98.274%
40.0	5.174	0.365	1340.348	.020%	98.300%
41.0	5.070	0.365	1340.713	.020%	98.327%
42.0	4.971	0.365	1341.077	.020%	98.354%
43.0	4.913	0.366	1341.444	.021%	98.381%
44.0	4.832	0.368	1341.811	.021%	98.408%
45.0	4.785	0.370	1342.181	.021%	98.435%
46.0	4.687	0.370	1342.551	.021%	98.462%
47.0	4.623	0.370	1342.922	.021%	98.489%
48.0	4.565	0.371	1343.293	.021%	98.516%
49.0	4.507	0.373	1343.666	.021%	98.544%
50.0	4.466	0.374	1344.04	.021%	98.571%
51.0	4.426	0.376	1344.416	.021%	98.599%
52.0	4.374	0.378	1344.794	.021%	98.626%
53.0	4.350	0.379	1345.173	.021%	98.654%
54.0	4.316	0.382	1345.555	.021%	98.682%
55.0	4.292	0.384	1345.939	.022%	98.710%
56.0	4.263	0.387	1346.326	.022%	98.739%
57.0	4.240	0.389	1346.715	.022%	98.767%
58.0	4.211	0.391	1347.105	.022%	98.796%
59.0	4.188	0.393	1347.498	.022%	98.825%
60.0	4.159	0.394	1347.892	.022%	98.854%
61.0	4.118	0.395	1348.287	.022%	98.883%
62.0	4.130	0.397	1348.685	.022%	98.912%
63.0	4.223	0.406	1349.091	.023%	98.942%
64.0	4.385	0.422	1349.514	.024%	98.973%
65.0	4.571	0.443	1349.957	.025%	99.005%
66.0	4.942	0.475	1350.431	.027%	99.040%
67.0	5.319	0.516	1350.947	.029%	99.078%
68.0	5.818	0.564	1351.511	.032%	99.119%
69.0	6.404	0.623	1352.135	.035%	99.165%
70.0	7.065	0.692	1352.827	.039%	99.216%
71.0	7.674	0.762	1353.588	.043%	99.271%
72.0	8.231	0.827	1354.415	.046%	99.332%
73.0	8.648	0.883	1355.298	.050%	99.397%
74.0	8.857	0.920	1356.218	.052%	99.464%
75.0	8.759	0.931	1357.149	.052%	99.533%

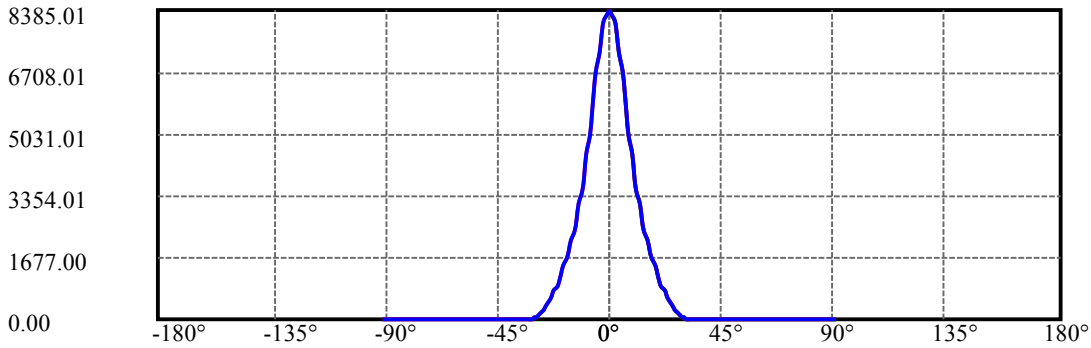
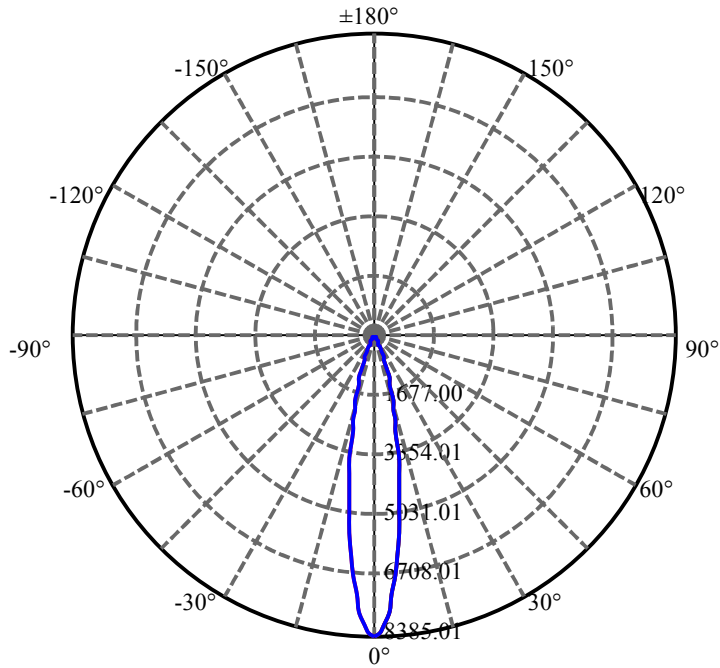
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	8.393	0.910	1358.06	.051%	99.599%
77.0	7.732	0.860	1358.919	.048%	99.662%
78.0	6.792	0.777	1359.697	.044%	99.719%
79.0	5.626	0.667	1360.364	.037%	99.768%
80.0	4.484	0.545	1360.909	.031%	99.808%
81.0	3.573	0.436	1361.345	.024%	99.840%
82.0	2.749	0.343	1361.688	.019%	99.865%
83.0	2.343	0.277	1361.965	.016%	99.886%
84.0	2.094	0.242	1362.206	.014%	99.903%
85.0	2.001	0.224	1362.43	.013%	99.920%
86.0	1.966	0.217	1362.647	.012%	99.936%
87.0	1.943	0.214	1362.861	.012%	99.951%
88.0	1.984	0.215	1363.076	.012%	99.967%
89.0	2.036	0.220	1363.296	.012%	99.983%
90.0	2.100	0.227	1363.523	.013%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1335.26	74.89%	97.93%
0-40	1340.35	75.17%	98.30%
0-60	1347.89	75.60%	98.85%
0-90	1363.30	76.46%	99.98%
0-120	1363.30	76.46%	99.98%
0-180	1363.52	76.47%	100.00%
60-90	15.80	0.89%	1.16%
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%
0-18.70	1090.82	61.18%	80.00%

ZONAL LUMEN SUMMARY

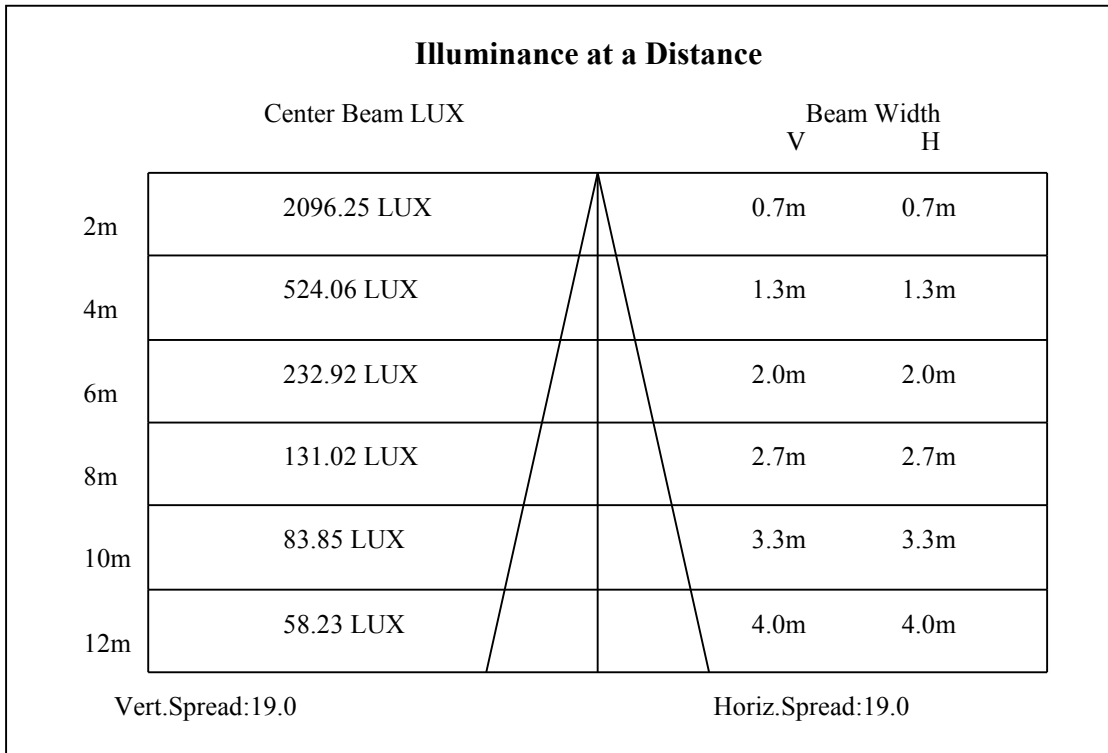
0-10	547.79
10-20	598.90
20-30	188.56
30-40	5.09
40-50	3.69
50-60	3.85
60-70	4.93
70-80	8.08
80-90	2.39
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

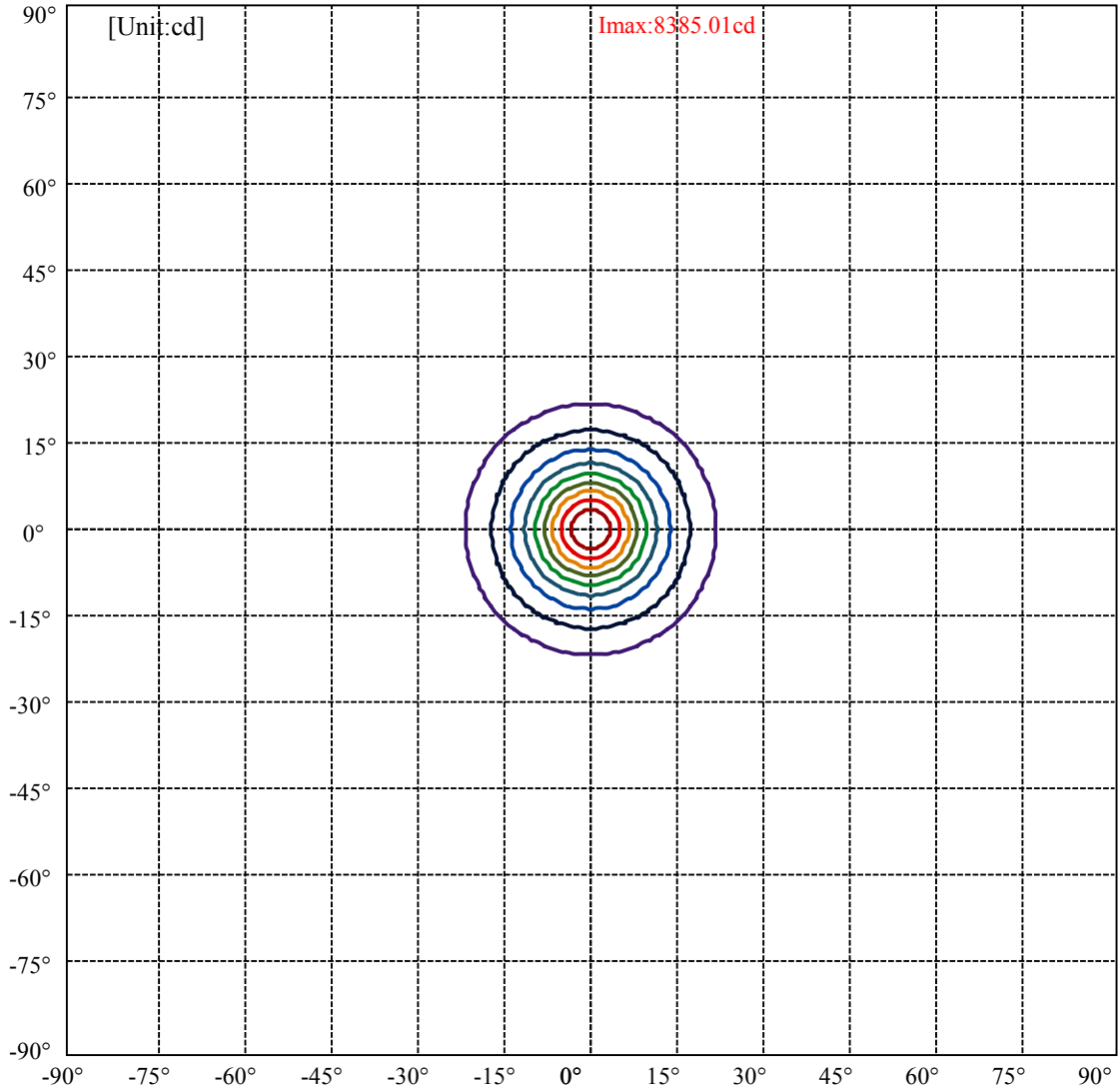


C0(Max): ———
C0/C180: ———
C90/C270: ———

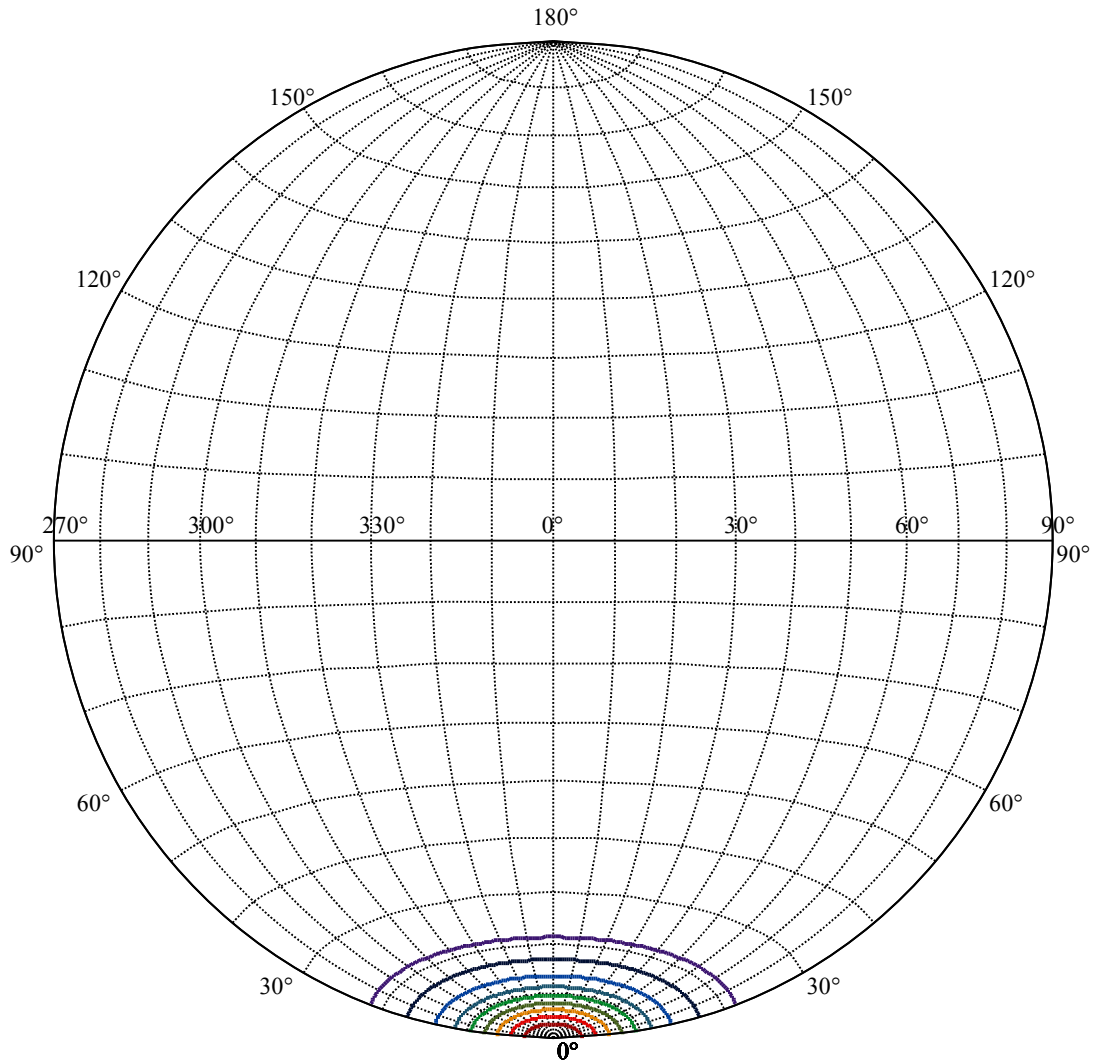
Field angle(10%Imax):C0/180Left:21.5 Right:21.5
:C90/270Left:21.5 Right:21.5

Beam Angle(50%Imax):C0/180Left:9.5 Right:9.5
:C90/270Left:9.5 Right:9.5





(10%Imax) 838.501	—
(20%Imax) 1677	—
(30%Imax) 2515.5	—
(40%Imax) 3354.01	—
(50%Imax) 4192.51	—
(60%Imax) 5031.01	—
(70%Imax) 5869.51	—
(80%Imax) 6708.01	—
(90%Imax) 7546.51	—












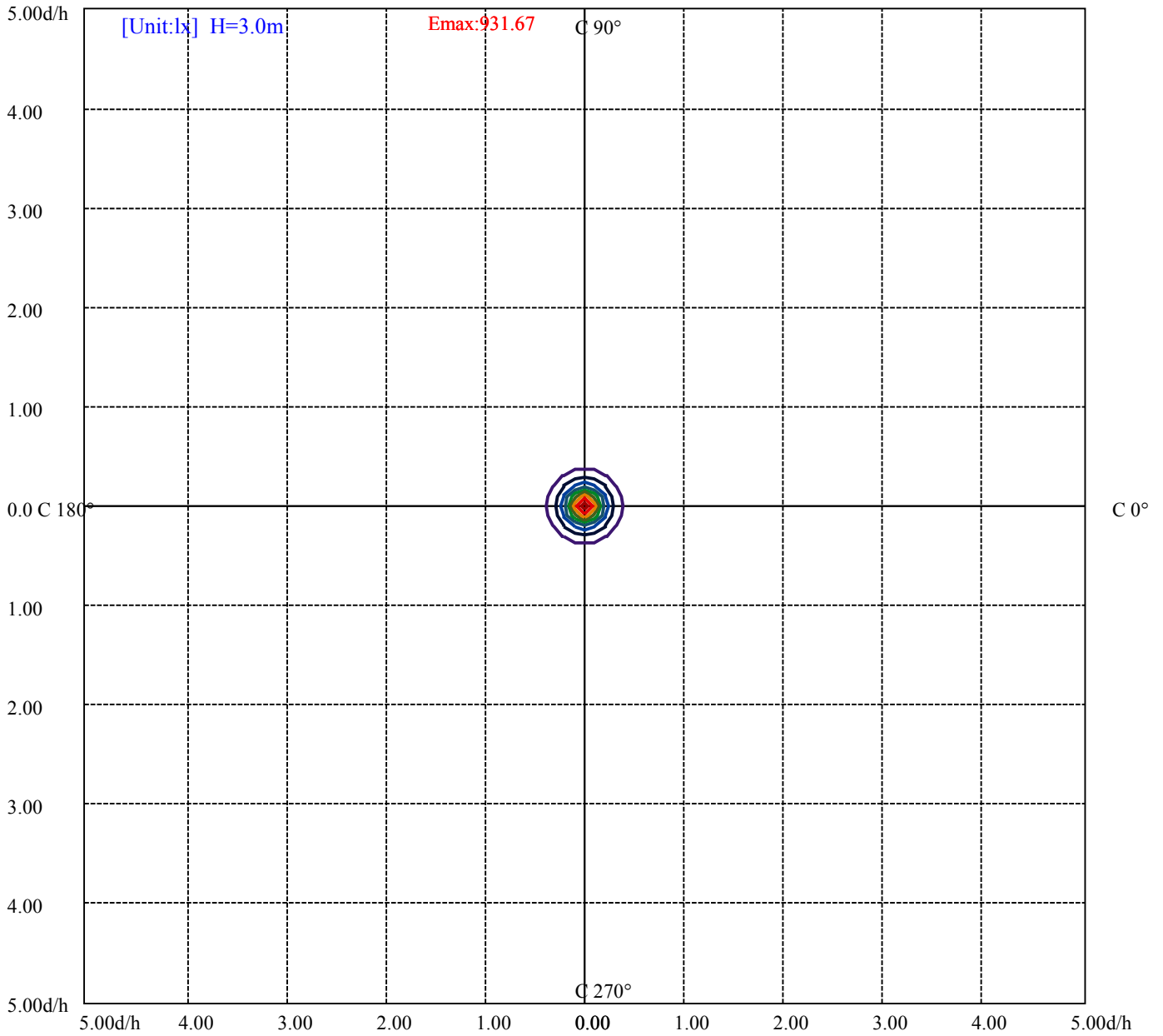
House

[Unit:cd]

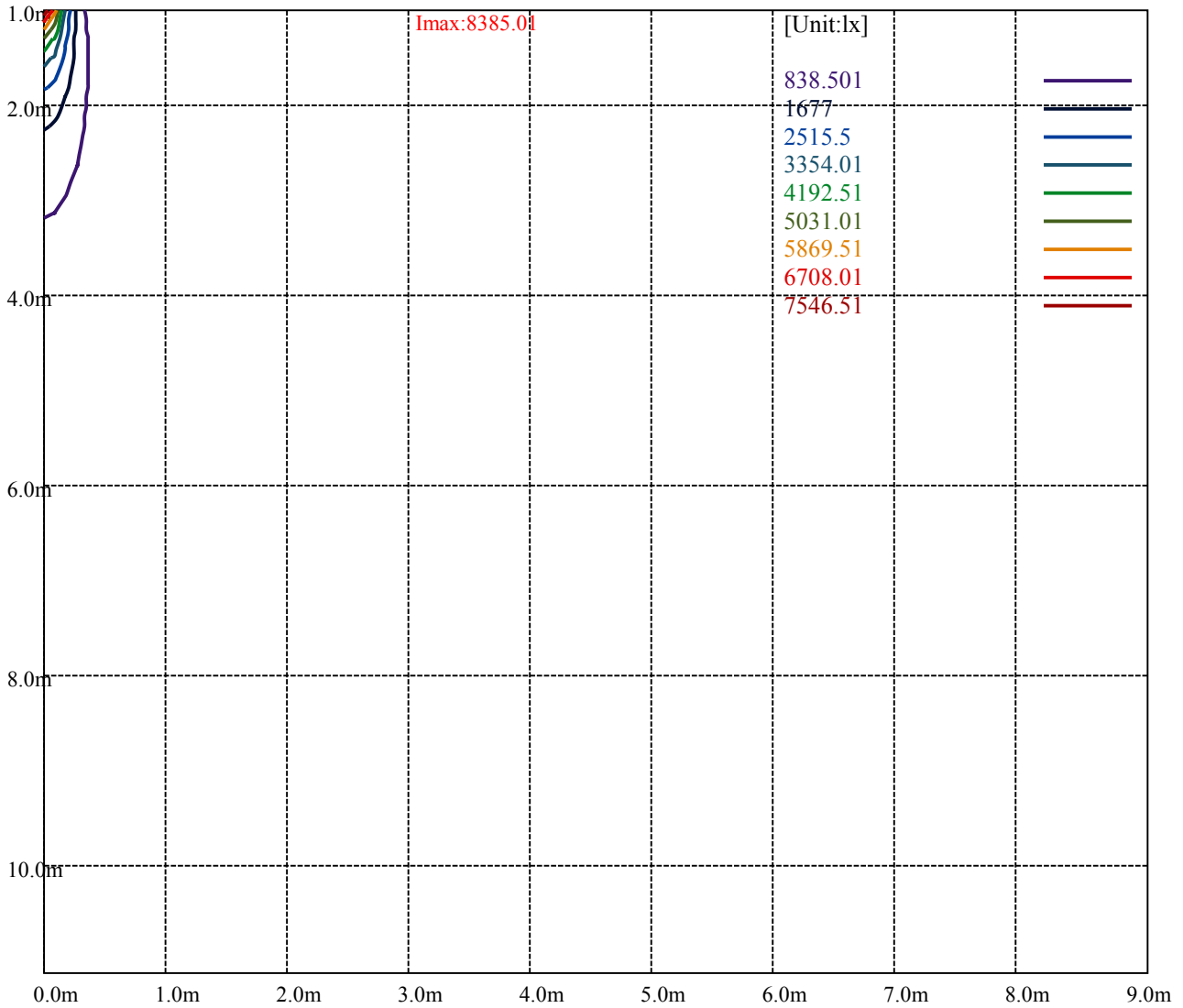
Road

Imax:8385.01

- (10%Imax) 838.501 
- (20%Imax) 1677 
- (30%Imax) 2515.5 
- (40%Imax) 3354.01 
- (50%Imax) 4192.51 
- (60%Imax) 5031.01 
- (70%Imax) 5869.51 
- (80%Imax) 6708.01 
- (90%Imax) 7546.51 



- (10%Emax) 93.16666
- (20%Emax) 186.3333
- (30%Emax) 279.5
- (40%Emax) 372.6667
- (50%Emax) 465.8333
- (60%Emax) 559
- (70%Emax) 652.1667
- (80%Emax) 745.3333
- (90%Emax) 838.5



Luminance Table

γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

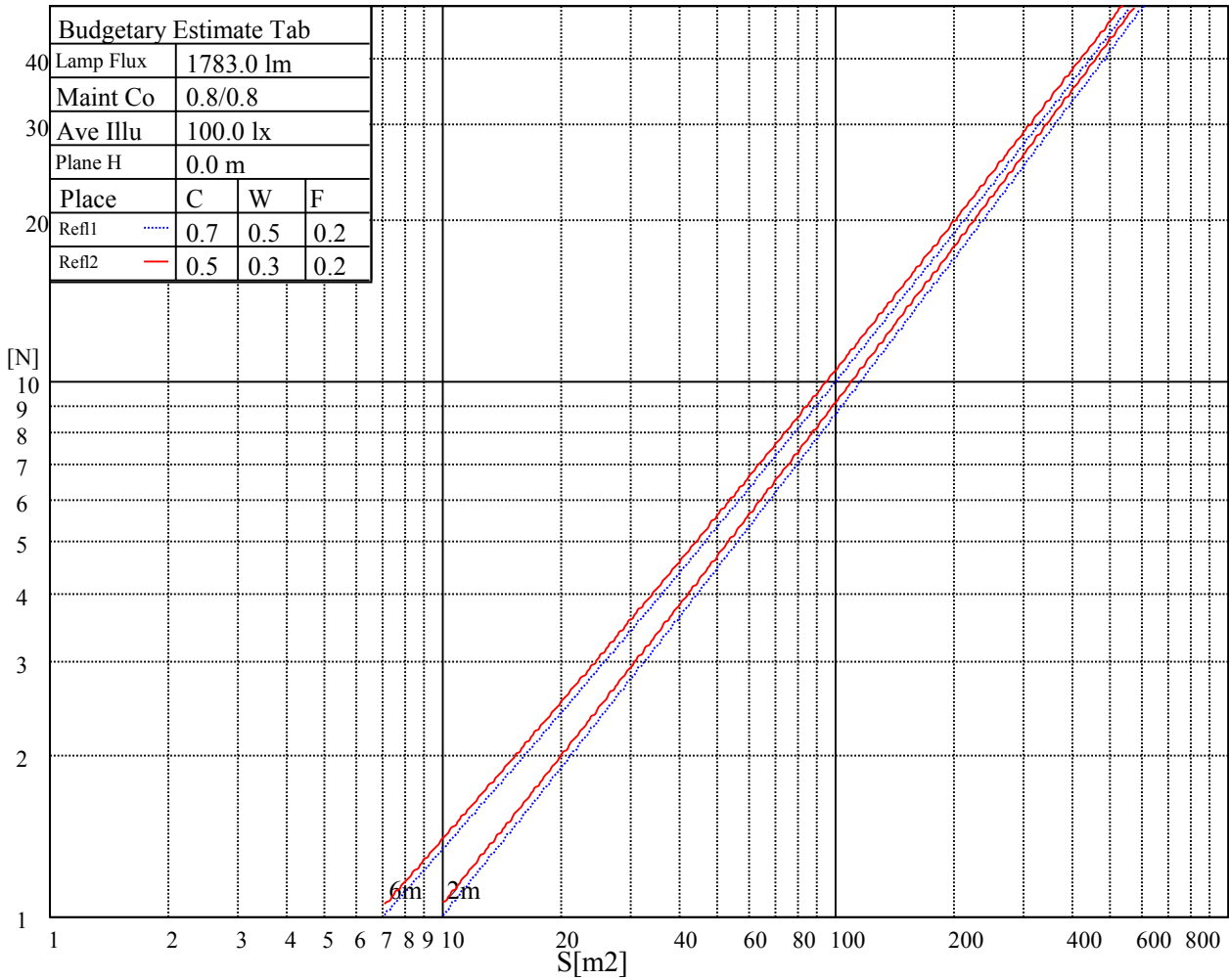
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

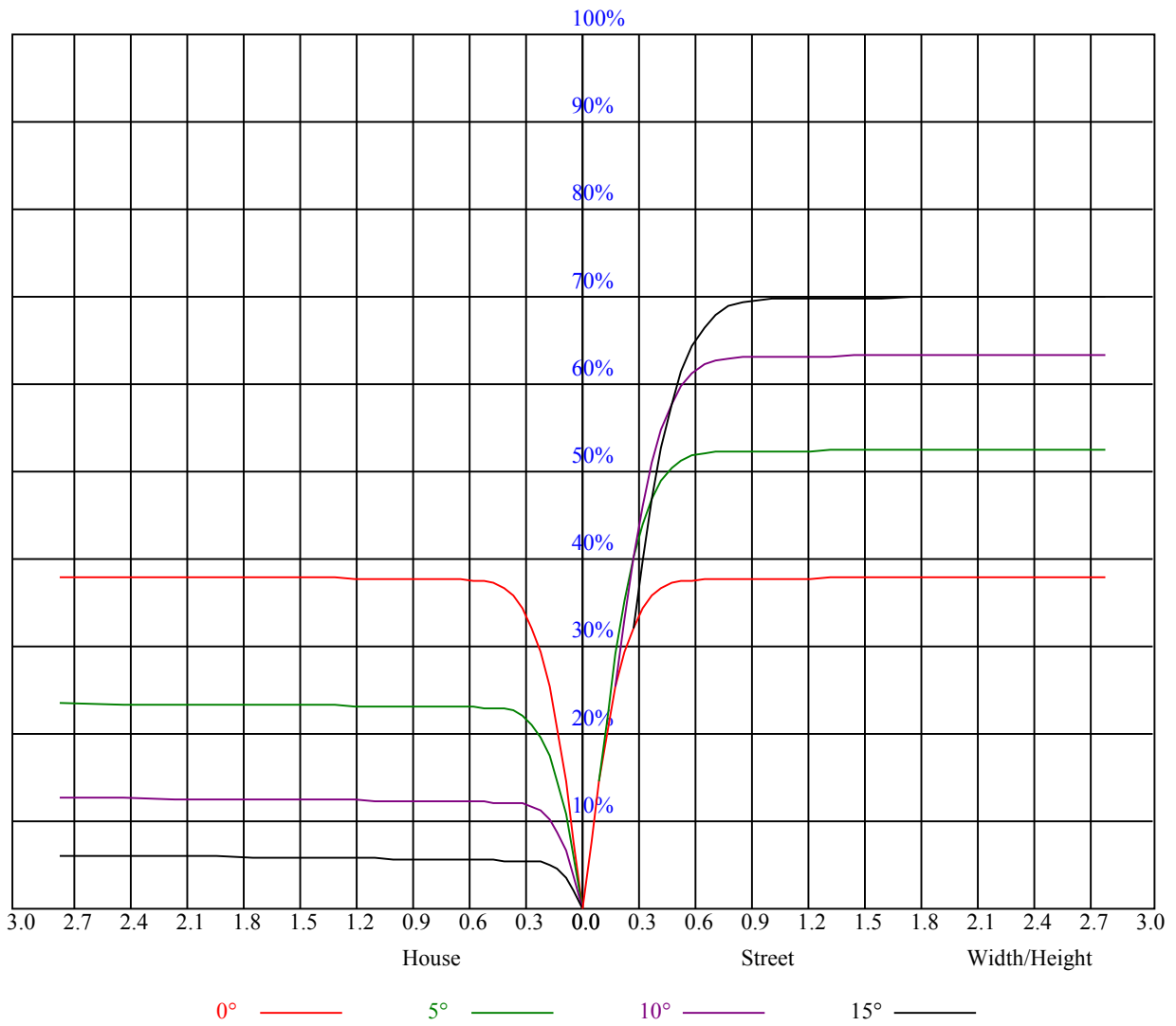
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

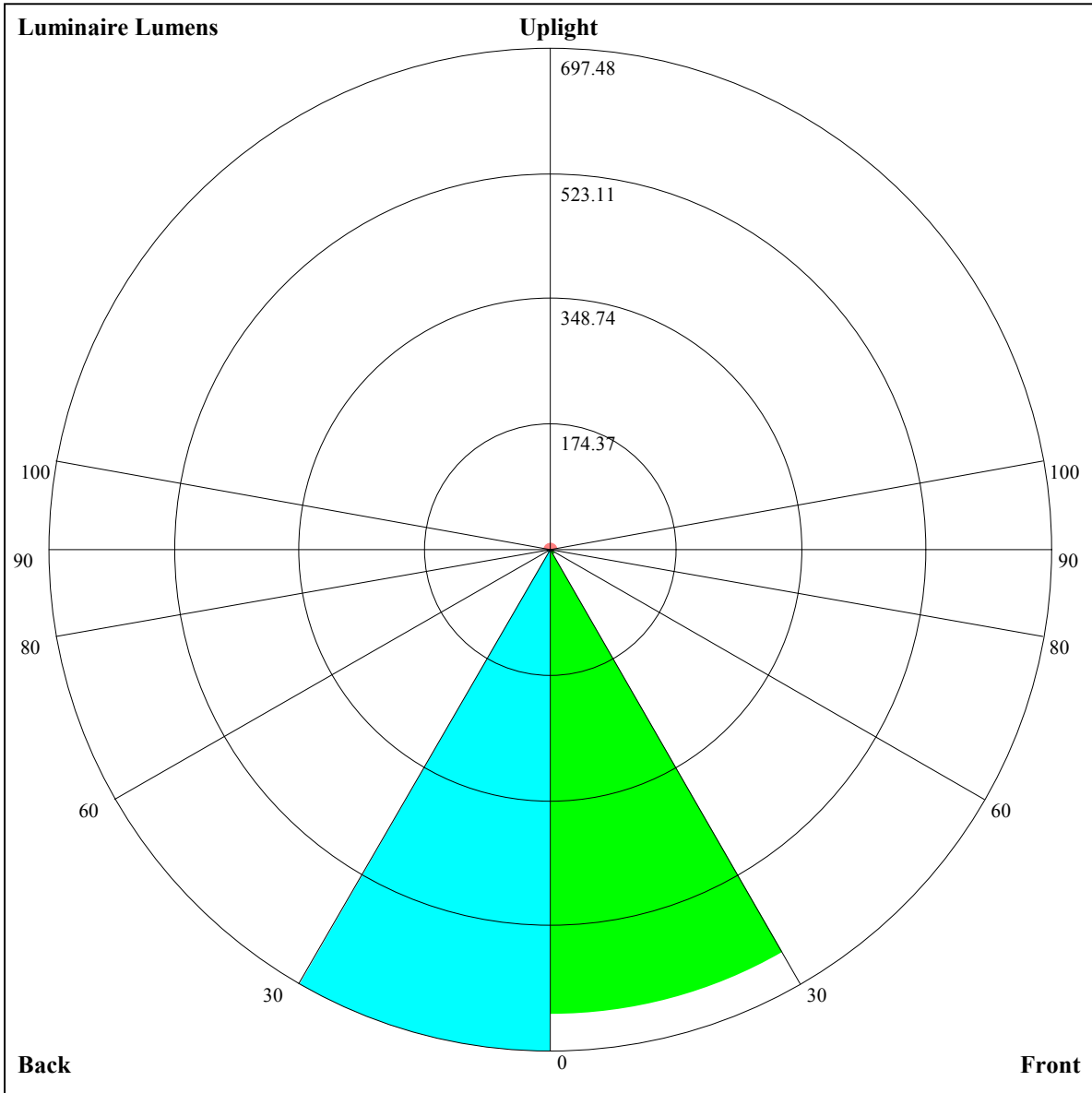
Luminance Limiting Curve





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	COEFFICIENTS OF UTILIZATION RHOFC=20 CU															
0	0.91	0.91	0.91	0.89	0.89	0.89	0.85	0.85	0.85	0.81	0.81	0.81	0.78	0.78	0.78	0.76
1	0.86	0.85	0.84	0.85	0.83	0.82	0.82	0.81	0.80	0.79	0.78	0.77	0.76	0.76	0.75	0.74
2	0.82	0.80	0.78	0.81	0.79	0.77	0.79	0.77	0.76	0.77	0.75	0.74	0.75	0.74	0.73	0.72
3	0.79	0.77	0.74	0.78	0.76	0.74	0.76	0.74	0.73	0.75	0.73	0.72	0.73	0.72	0.71	0.70
4	0.76	0.73	0.71	0.76	0.73	0.71	0.74	0.72	0.70	0.73	0.71	0.69	0.71	0.70	0.69	0.68
5	0.74	0.71	0.69	0.73	0.70	0.68	0.72	0.70	0.68	0.71	0.69	0.67	0.70	0.68	0.67	0.66
6	0.72	0.69	0.66	0.71	0.68	0.66	0.70	0.68	0.66	0.69	0.67	0.65	0.68	0.66	0.65	0.64
7	0.70	0.66	0.64	0.69	0.66	0.64	0.68	0.66	0.64	0.67	0.65	0.64	0.67	0.65	0.63	0.63
8	0.68	0.65	0.63	0.67	0.64	0.62	0.67	0.64	0.62	0.66	0.64	0.62	0.65	0.63	0.62	0.61
9	0.66	0.63	0.61	0.66	0.63	0.61	0.65	0.62	0.61	0.64	0.62	0.61	0.64	0.62	0.60	0.60
10	0.64	0.61	0.59	0.64	0.61	0.59	0.63	0.61	0.59	0.63	0.61	0.59	0.63	0.61	0.59	0.58





Luminaire Lumens:

FL=645.75,FM=7.81,FH=6.88,FVH=1.51

BL=697.48,BM=7.03,BH=5.55,BVH=1.15

UL=2.29,UH=10.9

BUG Rating:B2-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	8373.53	8115.53	7802.77	7309.50	6633.40	6156.38	5551.74	4949.89	4382.38
45.0	8564.25	8329.91	7958.68	7464.49	7125.74	6271.92	5893.27	5265.90	4448.27
90.0	8198.59	7771.68	7233.86	6630.16	5999.53	5371.70	4768.45	4208.83	3713.71
135.0	8403.69	8261.23	7970.28	7544.77	7022.26	6439.44	5826.91	5224.13	4649.66
180.0	8373.53	8473.30	8405.08	8171.21	7780.96	7282.59	6717.86	6124.36	5519.26
225.0	8564.25	8619.93	8478.87	8180.96	7756.37	7227.37	6648.72	6042.23	5429.24
270.0	8198.59	8501.14	8643.60	8578.17	8341.05	7972.60	7697.90	6939.20	6582.82
315.0	8403.69	8371.21	8167.96	7819.94	7357.76	6817.63	6357.30	5643.16	5165.67
360.0	8373.53	8115.53	7802.77	7309.50	6633.40	6156.38	5551.74	4949.89	4382.38
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	3874.26	3422.29	3024.15	2670.56	2358.73	2083.56	1838.08	1615.81	1412.56
45.0	4129.02	3641.78	3206.52	2823.69	2488.66	2194.46	1933.67	1697.48	1486.35
90.0	3271.48	2882.62	2541.09	2356.87	1974.97	1829.27	1607.46	1406.53	1219.99
135.0	4124.84	3647.81	3220.90	2844.11	2511.86	2218.13	2055.71	1716.97	1586.11
180.0	4930.40	4382.38	3885.40	3435.75	3032.50	2678.91	2365.69	2085.41	1932.75
225.0	4829.71	4273.79	3778.67	3337.37	2948.05	2603.27	2297.94	2131.35	1877.99
270.0	5970.76	5114.16	4758.25	4208.37	3712.31	3271.02	2887.26	2549.45	2249.68
315.0	4586.09	4052.91	3579.60	3164.75	2796.78	2470.56	2181.93	1927.18	1696.09
360.0	3874.26	3422.29	3024.15	2670.56	2358.73	2083.56	1838.08	1615.81	1412.56
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1226.49	839.02	839.02	806.58	655.59	512.20	382.18	265.75	170.72
45.0	1294.70	1116.51	952.24	794.47	647.84	508.16	381.95	266.40	266.40
90.0	862.22	862.22	708.86	567.70	433.08	311.04	204.64	118.05	54.15
135.0	1382.87	1195.40	1022.31	863.61	708.63	562.92	428.81	308.16	263.62
180.0	1694.70	1398.64	1282.17	1100.73	871.50	773.59	622.32	485.89	360.14
225.0	1561.98	1438.55	1245.98	880.92	880.92	724.77	577.16	436.89	313.55
270.0	1981.47	1741.10	1525.79	1328.11	1145.74	976.84	819.53	667.33	525.33
315.0	1486.81	1294.70	896.98	865.38	802.36	711.64	566.21	430.39	309.00
360.0	1226.49	839.02	839.02	806.58	655.59	512.20	382.18	265.75	170.72
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	94.85	39.63	10.90	8.21	7.89	7.61	7.33	7.15	7.01
45.0	153.08	44.73	11.93	7.15	6.68	6.40	6.13	5.80	5.52
90.0	15.13	6.59	6.13	5.94	5.52	5.43	5.20	5.10	5.01
135.0	242.74	52.99	15.50	7.61	6.68	6.31	6.08	5.80	5.61
180.0	289.60	289.60	75.92	27.01	8.07	6.73	6.40	5.89	5.61
225.0	207.56	123.80	83.53	18.10	7.61	5.80	5.24	5.06	4.83
270.0	395.87	300.74	278.93	235.78	52.85	14.99	6.91	6.45	6.13
315.0	205.66	120.88	58.10	19.54	8.72	8.12	7.75	7.47	7.29
360.0	94.85	39.63	10.90	8.21	7.89	7.61	7.33	7.15	7.01
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	6.82	6.64	6.50	6.40	6.31	6.13	6.03	5.94	5.89
45.0	5.38	5.24	5.10	5.01	5.01	4.92	4.78	4.73	4.64
90.0	4.87	4.78	4.69	4.64	4.55	4.45	4.36	4.36	4.32
135.0	5.38	5.20	5.15	5.01	4.83	4.69	4.64	4.59	4.45
180.0	5.38	5.20	5.01	4.83	4.64	4.55	4.41	4.32	4.22
225.0	4.64	4.50	4.32	4.22	4.13	4.04	3.94	3.85	3.81
270.0	5.94	5.80	5.61	5.43	5.34	5.34	5.24	5.20	5.10
315.0	7.05	6.87	6.77	6.68	6.59	6.45	6.36	6.31	6.22
360.0	6.82	6.64	6.50	6.40	6.31	6.13	6.03	5.94	5.89

Intensity data(cd)

C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	5.80	5.66	5.61	5.52	5.43	5.34	5.29	5.24	5.20
45.0	4.64	4.45	4.50	4.36	4.32	4.32	4.18	4.13	4.04
90.0	4.22	4.13	4.08	4.04	3.99	3.90	3.90	3.85	3.85
135.0	4.41	4.41	4.27	4.18	4.18	4.22	4.22	4.22	4.22
180.0	4.18	4.08	3.99	3.90	3.85	3.81	3.71	3.62	3.62
225.0	3.76	3.67	3.57	3.57	3.48	3.43	3.43	3.34	3.34
270.0	5.10	5.01	4.92	4.92	4.83	4.78	4.73	4.64	4.55
315.0	6.17	6.08	6.03	6.03	5.99	5.94	5.94	5.94	5.99
360.0	5.80	5.66	5.61	5.52	5.43	5.34	5.29	5.24	5.20
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	5.10	5.10	5.10	5.06	5.01	5.01	5.01	5.01	5.06
45.0	4.04	3.90	3.85	3.90	3.81	3.67	3.67	3.62	3.57
90.0	3.85	3.90	3.85	3.81	3.85	3.81	3.81	3.76	3.76
135.0	4.18	4.22	4.22	4.18	4.18	4.22	4.18	4.18	4.27
180.0	3.57	3.48	3.43	3.39	3.39	3.34	3.34	3.34	3.29
225.0	3.25	3.25	3.16	3.11	3.06	3.06	2.97	2.92	2.92
270.0	4.59	4.55	4.55	4.55	4.55	4.59	4.55	4.45	4.50
315.0	5.94	5.94	5.94	5.94	5.85	5.75	5.75	5.66	5.66
360.0	5.10	5.10	5.10	5.06	5.01	5.01	5.01	5.01	5.06
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	5.06	5.20	5.24	5.71	6.50	7.66	9.14	10.86	12.58
45.0	3.48	3.48	3.48	3.43	3.39	3.29	3.29	3.25	3.16
90.0	3.85	3.90	4.08	4.27	4.59	4.92	5.15	5.43	5.57
135.0	4.73	5.38	6.31	7.42	8.68	9.88	11.14	12.20	12.90
180.0	3.34	3.39	3.53	3.57	3.76	4.04	4.41	5.06	5.75
225.0	2.92	2.83	2.78	2.78	2.78	2.69	2.60	2.64	2.60
270.0	4.36	4.32	4.27	4.27	4.22	4.32	4.55	4.73	5.06
315.0	6.03	6.59	6.87	8.07	8.63	9.74	10.95	12.34	13.78
360.0	5.06	5.20	5.24	5.71	6.50	7.66	9.14	10.86	12.58
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	13.97	14.85	15.03	14.20	12.25	9.79	7.89	5.75	3.57
45.0	3.16	3.16	3.16	3.06	3.02	2.97	2.78	2.46	2.27
90.0	5.80	5.94	6.03	5.99	5.61	4.78	3.76	2.74	2.18
135.0	13.32	13.46	13.36	12.58	11.88	10.49	8.77	6.77	4.45
180.0	6.59	7.33	7.70	7.70	7.56	7.38	6.54	5.57	4.92
225.0	2.55	2.55	2.51	2.51	2.51	2.46	2.37	2.32	2.23
270.0	5.38	5.75	6.26	6.77	7.05	7.24	7.24	7.05	6.68
315.0	15.08	16.15	16.80	17.26	17.26	16.75	14.99	12.34	9.56
360.0	13.97	14.85	15.03	14.20	12.25	9.79	7.89	5.75	3.57
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	2.97	2.88	2.97	2.83	2.97	3.29	3.48	3.62	3.81
45.0	2.09	1.90	1.95	1.90	1.90	2.00	2.09	2.23	2.37
90.0	1.90	1.58	1.48	1.44	1.48	1.39	1.44	1.48	1.48
135.0	2.69	2.00	1.72	1.62	1.58	1.58	1.58	1.58	1.62
180.0	3.71	2.18	1.90	1.81	1.72	1.62	1.53	1.48	1.39
225.0	2.13	1.95	1.81	1.62	1.53	1.48	1.44	1.39	1.35
270.0	6.17	4.97	3.99	3.06	2.51	2.04	1.76	1.62	1.58
315.0	6.91	4.55	2.92	2.46	2.32	2.32	2.23	2.46	2.69
360.0	2.97	2.88	2.97	2.83	2.97	3.29	3.48	3.62	3.81

Intensity data(cd)

C/ γ (°)	90.0
0.0	4.08
45.0	2.41
90.0	1.44
135.0	1.67
180.0	1.48
225.0	1.30
270.0	1.58
315.0	2.83
360.0	4.08