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Nata

LumCAT: 1-0935-N
Luminaire: 92.70.246.00

Report No: 210706-B007	Voltage(V): 36.5300
Test No: 210706-C007	Current(A): 0.4510
LampCAT: Fortimo LED SLM 1203 G7N	Power (W): 16.4750
Lamp flux(lm): 2143.4	PF: 1.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 570	Width(mm): 45
Phm Type: C	Height(mm): 20

Photometric Results

Lumens(lm): 1683.14
Efficiency(%): 78.53%
Lumens(lm)/Power(W): 102.16
Central intensity(cd): 8438.203
Maximum intensity(cd): 8438.203
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=19.4
[C90/270]Total=19.4
Field angle(10%Imax): [C0/180]Total=47.5
[C90/270]Total=47.5
Maximum s/h(1/2): C0_180=0.33 C90_270=0.33
Maximum s/h(1/4): C0_180=0.38 C90_270=0.38
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 78.53%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.069%

Equipment: GMS1980	Date: 2021/7/06	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	8438.203	0.000	0	.000%	.000%
1.0	8415.070	8.064	8.064	.376%	.479%
2.0	8299.195	23.990	32.054	1.119%	1.904%
3.0	8047.969	39.097	71.151	1.824%	4.227%
4.0	7698.234	52.708	123.858	2.459%	7.359%
5.0	7206.117	64.118	187.976	2.991%	11.168%
6.0	6544.617	72.264	260.24	3.371%	15.462%
7.0	5924.109	77.393	337.633	3.611%	20.060%
8.0	5243.484	79.924	417.558	3.729%	24.808%
9.0	4590.563	79.700	497.257	3.718%	29.543%
10.0	4042.336	78.125	575.382	3.645%	34.185%
11.0	3574.969	76.113	651.494	3.551%	38.707%
12.0	3198.938	74.048	725.543	3.455%	43.106%
13.0	2852.859	71.820	797.362	3.351%	47.373%
14.0	2563.453	69.328	866.691	3.234%	51.492%
15.0	2314.266	66.964	933.654	3.124%	55.471%
16.0	2097.492	64.645	998.299	3.016%	59.312%
17.0	1858.781	61.610	1059.909	2.874%	62.972%
18.0	1671.891	58.213	1118.122	2.716%	66.431%
19.0	1511.930	55.392	1173.514	2.584%	69.722%
20.0	1318.493	51.805	1225.318	2.417%	72.799%
21.0	1184.273	48.058	1273.376	2.242%	75.655%
22.0	1071.626	45.333	1318.71	2.115%	78.348%
23.0	943.284	42.278	1360.988	1.972%	80.860%
24.0	806.520	38.257	1399.245	1.785%	83.133%
25.0	697.598	34.200	1433.445	1.596%	85.165%
26.0	584.930	30.274	1463.719	1.412%	86.963%
27.0	481.683	26.095	1489.814	1.217%	88.514%
28.0	383.576	21.907	1511.721	1.022%	89.815%
29.0	306.956	18.066	1529.787	.843%	90.889%
30.0	238.240	14.720	1544.507	.687%	91.763%
31.0	186.898	11.831	1556.338	.552%	92.466%
32.0	135.520	9.237	1565.575	.431%	93.015%
33.0	107.515	7.160	1572.735	.334%	93.440%
34.0	92.805	6.062	1578.797	.283%	93.801%
35.0	83.405	5.472	1584.27	.255%	94.126%
36.0	77.632	5.127	1589.397	.239%	94.430%
37.0	72.851	4.908	1594.305	.229%	94.722%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	67.866	4.697	1599.002	.219%	95.001%
39.0	61.713	4.423	1603.425	.206%	95.264%
40.0	56.728	4.131	1607.556	.193%	95.509%
41.0	51.307	3.847	1611.403	.179%	95.738%
42.0	45.710	3.525	1614.928	.164%	95.947%
43.0	40.922	3.209	1618.137	.150%	96.138%
44.0	36.689	2.929	1621.066	.137%	96.312%
45.0	33.033	2.679	1623.746	.125%	96.471%
46.0	29.995	2.465	1626.21	.115%	96.617%
47.0	27.654	2.293	1628.503	.107%	96.754%
48.0	25.643	2.155	1630.658	.101%	96.882%
49.0	24.138	2.044	1632.702	.095%	97.003%
50.0	22.535	1.946	1634.648	.091%	97.119%
51.0	21.298	1.855	1636.503	.087%	97.229%
52.0	20.257	1.783	1638.286	.083%	97.335%
53.0	19.230	1.718	1640.003	.080%	97.437%
54.0	18.274	1.653	1641.656	.077%	97.535%
55.0	17.550	1.599	1643.256	.075%	97.630%
56.0	16.875	1.556	1644.811	.073%	97.723%
57.0	16.158	1.510	1646.322	.070%	97.812%
58.0	15.652	1.471	1647.793	.069%	97.900%
59.0	15.159	1.440	1649.233	.067%	97.985%
60.0	14.681	1.410	1650.643	.066%	98.069%
61.0	14.295	1.383	1652.025	.065%	98.151%
62.0	13.922	1.360	1653.385	.063%	98.232%
63.0	13.605	1.339	1654.724	.062%	98.311%
64.0	13.275	1.319	1656.043	.062%	98.390%
65.0	12.987	1.300	1657.343	.061%	98.467%
66.0	12.684	1.281	1658.623	.060%	98.543%
67.0	12.431	1.263	1659.886	.059%	98.618%
68.0	12.122	1.244	1661.13	.058%	98.692%
69.0	11.827	1.222	1662.352	.057%	98.765%
70.0	11.559	1.201	1663.553	.056%	98.836%
71.0	11.243	1.179	1664.731	.055%	98.906%
72.0	10.898	1.151	1665.883	.054%	98.974%
73.0	10.624	1.125	1667.008	.053%	99.041%
74.0	10.343	1.102	1668.111	.051%	99.107%
75.0	10.055	1.078	1669.188	.050%	99.171%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	9.844	1.056	1670.245	.049%	99.234%
77.0	9.626	1.038	1671.283	.048%	99.295%
78.0	9.408	1.019	1672.301	.048%	99.356%
79.0	9.211	1.000	1673.302	.047%	99.415%
80.0	9.014	0.983	1674.284	.046%	99.474%
81.0	8.873	0.967	1675.252	.045%	99.531%
82.0	8.740	0.955	1676.207	.045%	99.588%
83.0	8.557	0.940	1677.147	.044%	99.644%
84.0	8.360	0.922	1678.069	.043%	99.698%
85.0	8.135	0.900	1678.969	.042%	99.752%
86.0	7.854	0.874	1679.843	.041%	99.804%
87.0	7.671	0.850	1680.693	.040%	99.854%
88.0	7.495	0.831	1681.523	.039%	99.904%
89.0	7.376	0.815	1682.339	.038%	99.952%
90.0	7.313	0.805	1683.144	.038%	100.000%

Zonal flux distribution table

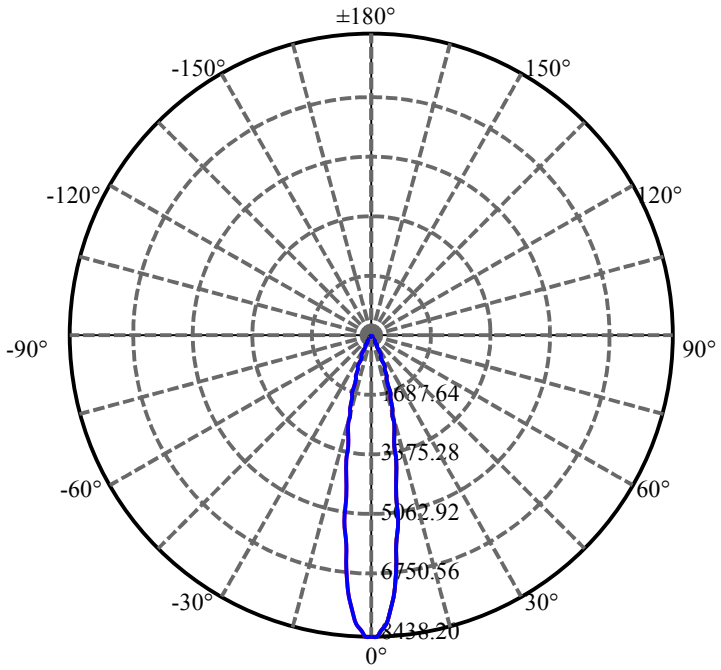
ZONAL LUMEN SUMMARY

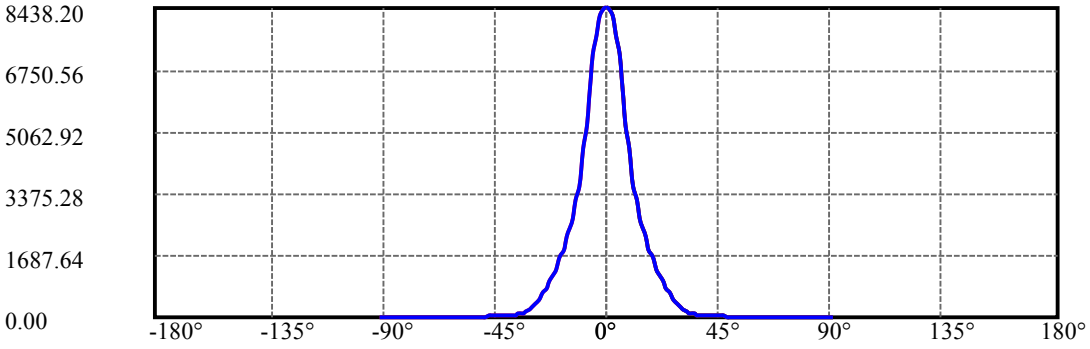
Zone	Lumens	%Lamp	%Fixt
0-30	1544.51	72.06%	91.76%
0-40	1607.56	75.00%	95.51%
0-60	1650.64	77.01%	98.07%
0-90	1682.34	78.49%	99.95%
0-120	1682.34	78.49%	99.95%
0-180	1683.14	78.53%	100.00%
60-90	33.11	1.54%	1.97%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-22.66	1346.52	62.82%	80.00%

ZONAL LUMEN SUMMARY

0-10	575.38
10-20	649.94
20-30	319.19
30-40	63.05
40-50	27.09
50-60	15.99
60-70	12.91
70-80	10.73
80-90	8.05
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):

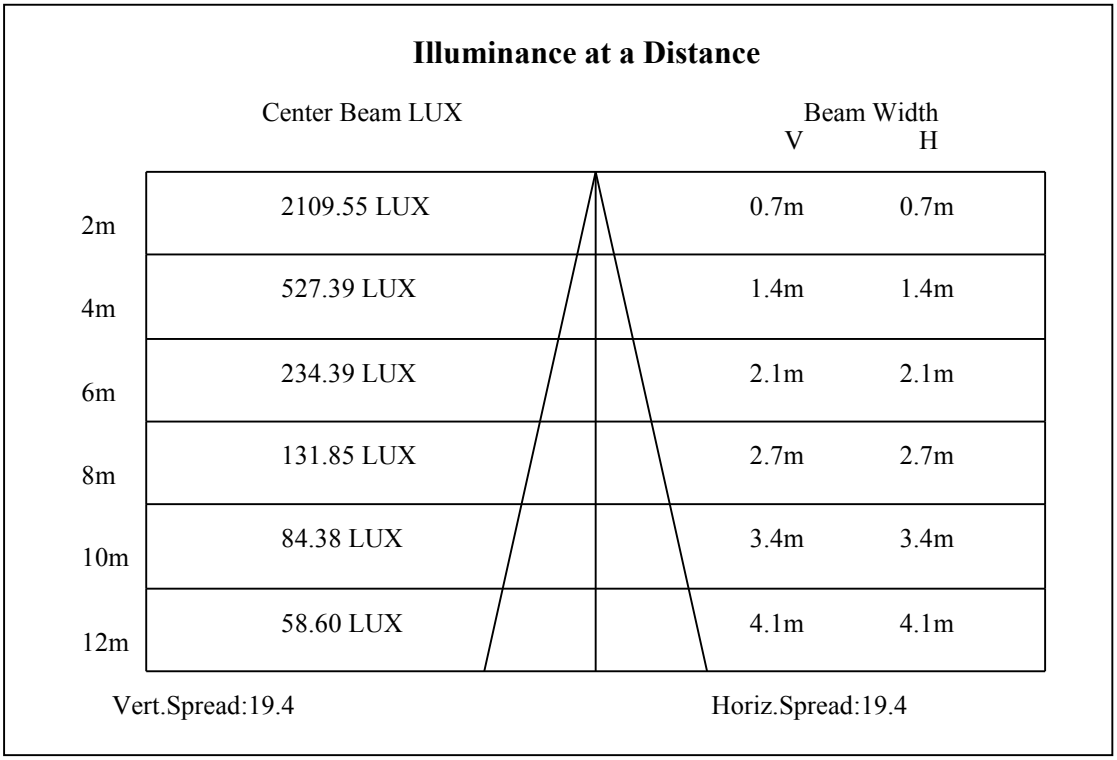
C0/C180:

C90/C270:

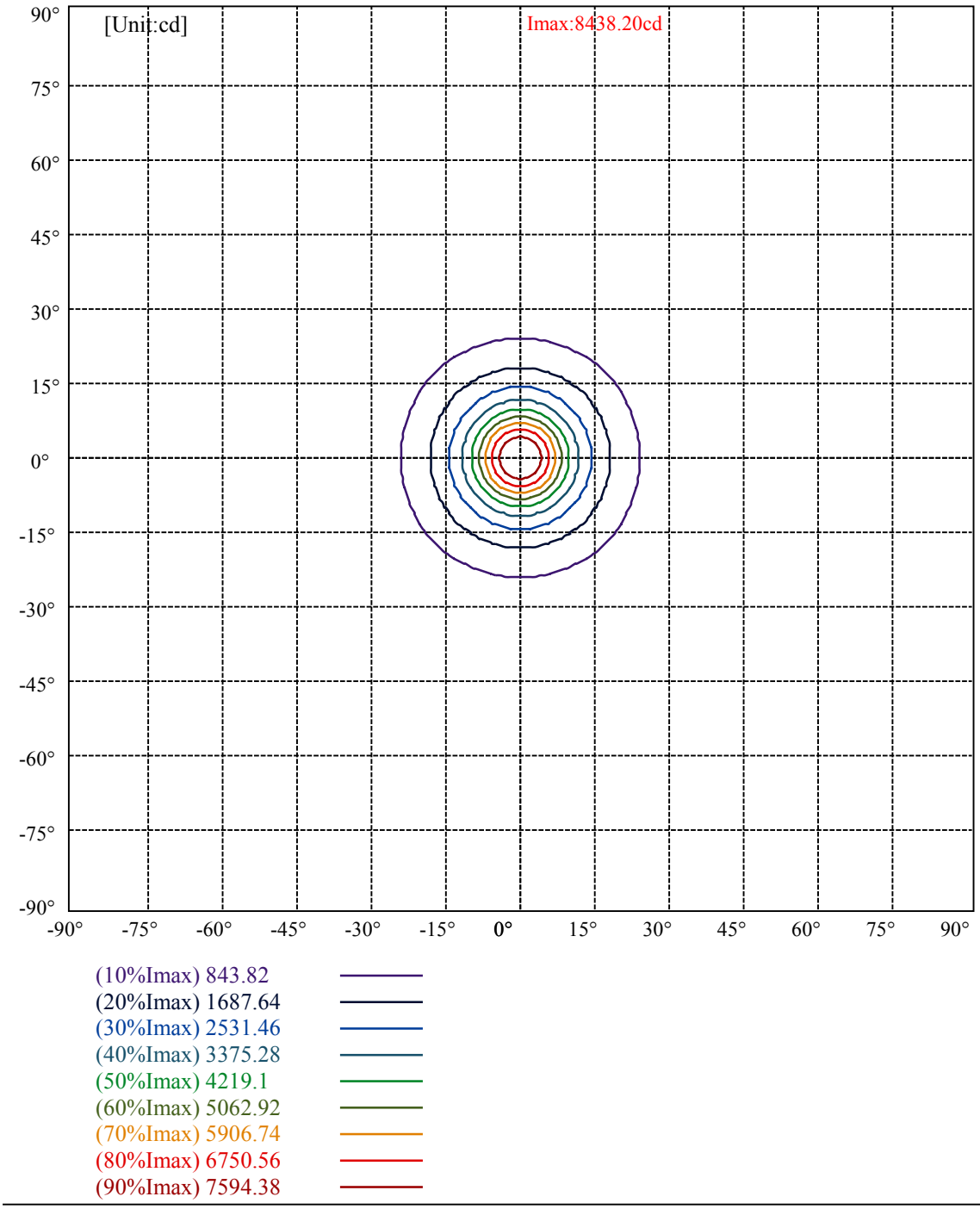
Field angle(10%Imax):C0/180Left:23.7 Right:23.7
:C90/270Left:23.7 Right:23.7

Beam Angle(50%Imax):C0/180Left:9.7 Right:9.7
:C90/270Left:9.7 Right:9.7

Lux distance Curve



ISO-Intensity(V-H)

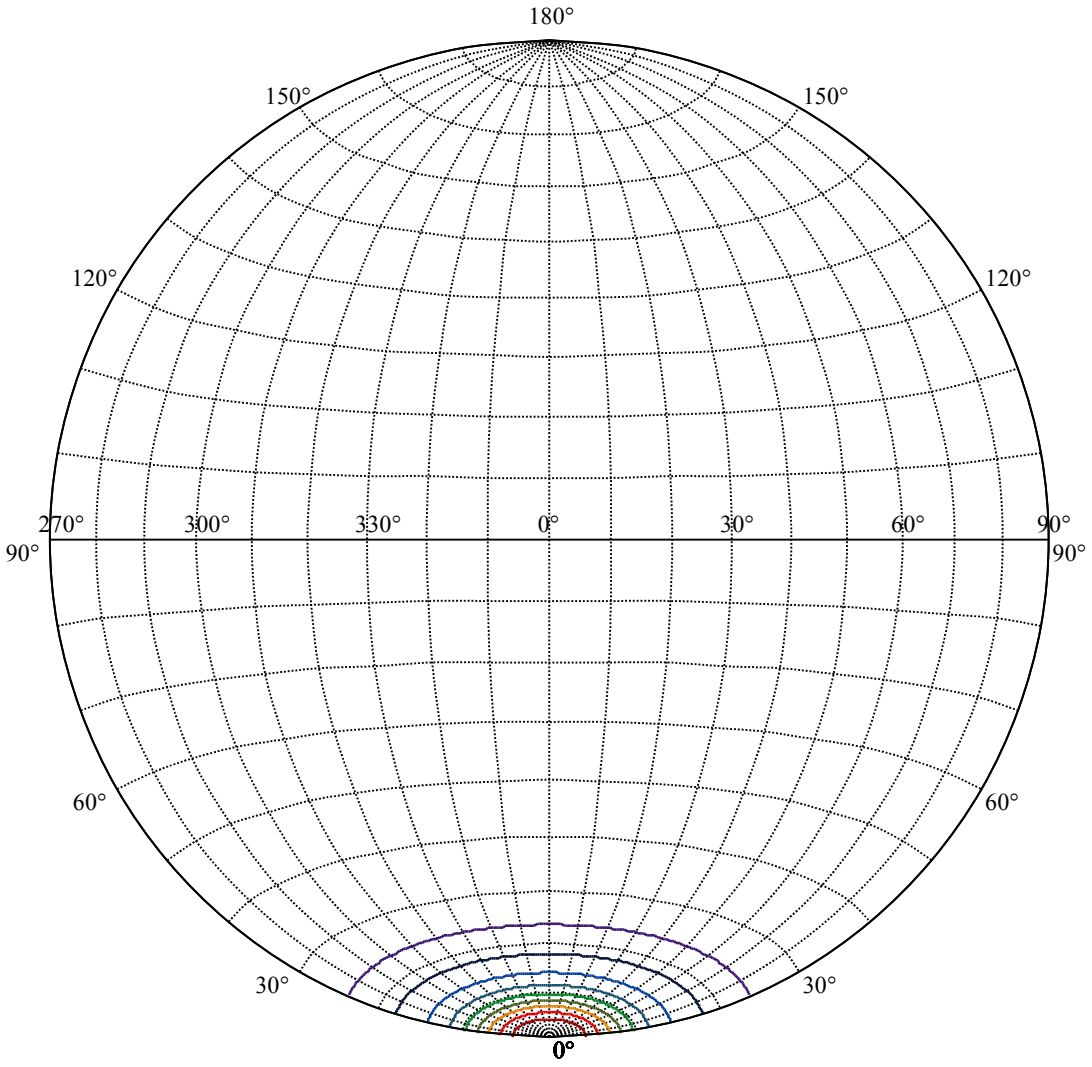


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/7/06
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



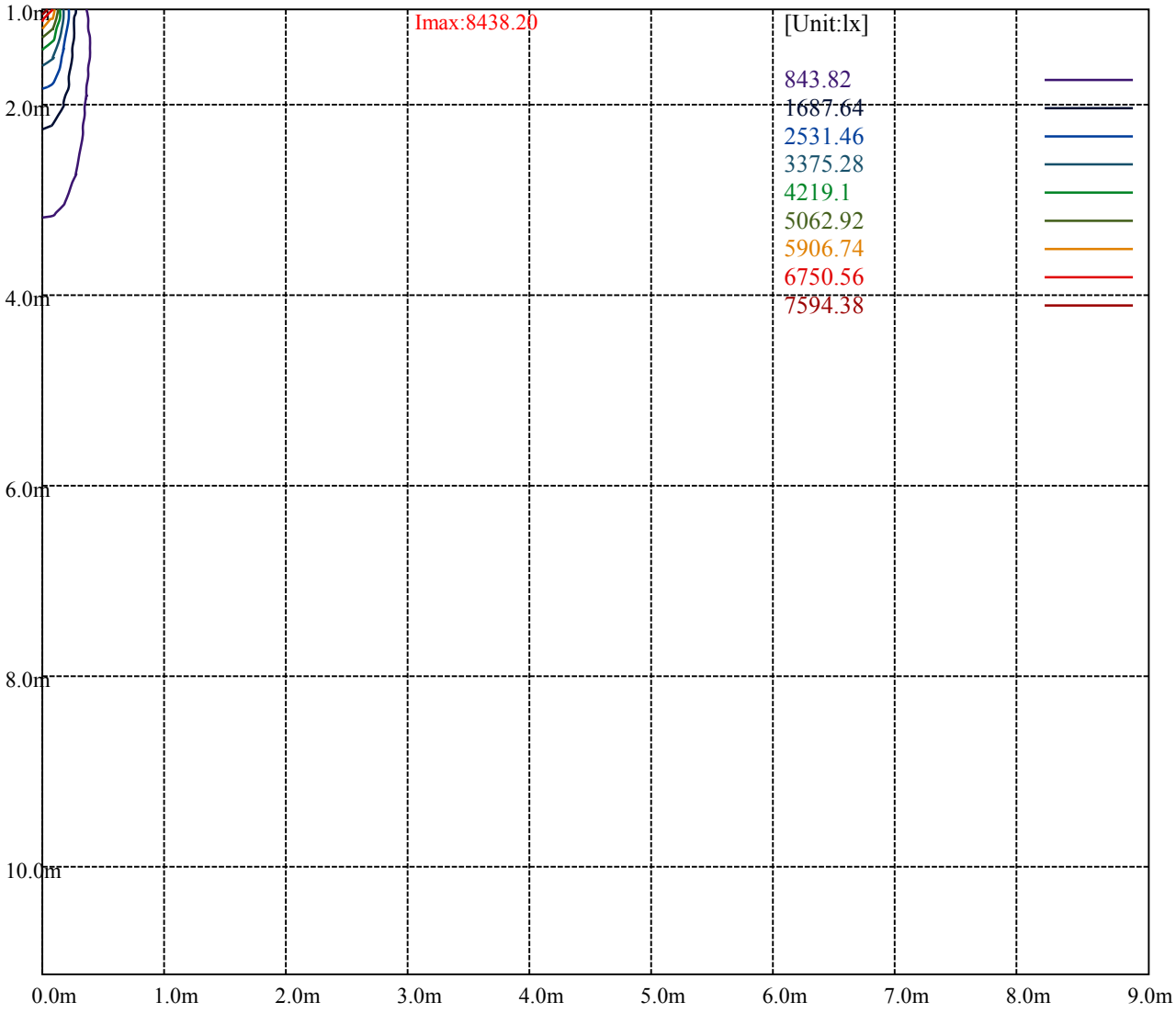
House [Unit:cd] Road

Imax:8438.20

(10%Imax) 843.82
(20%Imax) 1687.64
(30%Imax) 2531.46
(40%Imax) 3375.28
(50%Imax) 4219.1
(60%Imax) 5062.92
(70%Imax) 5906.74
(80%Imax) 6750.56
(90%Imax) 7594.38

Equipment: GMS1980 Date: 2021/7/06 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2021/7/06
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Luminance Limitting Curve(no luminous side)

Luminance Table

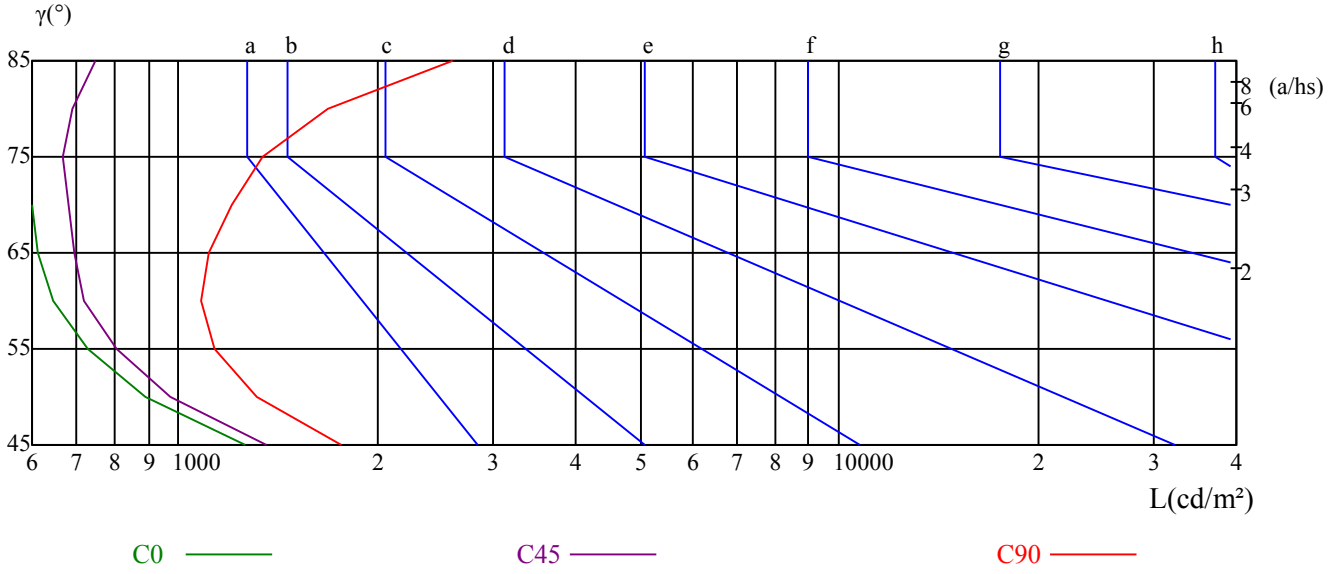
γ	45	50	55	60	65	70	75	80	85
C0	1261	894	730	647	613	593	570	575	599
C45	1360	973	804	721	694	682	669	692	746
C90	1760	1312	1136	1079	1114	1202	1339	1688	2597

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
1198	1198	1198	1515	1515	1515	3639	3639	3639

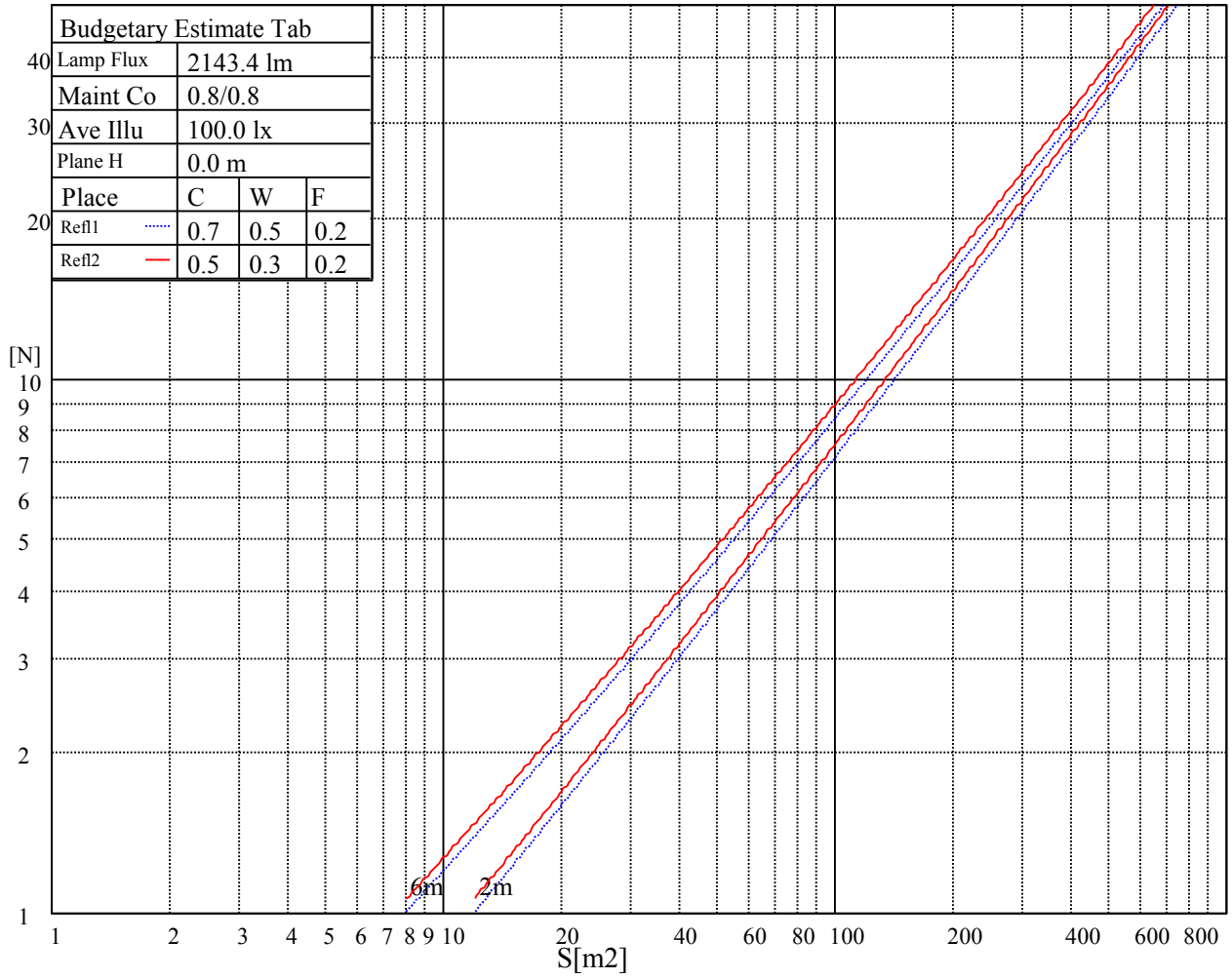
Glare Table

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



Budgetary Estimate Table

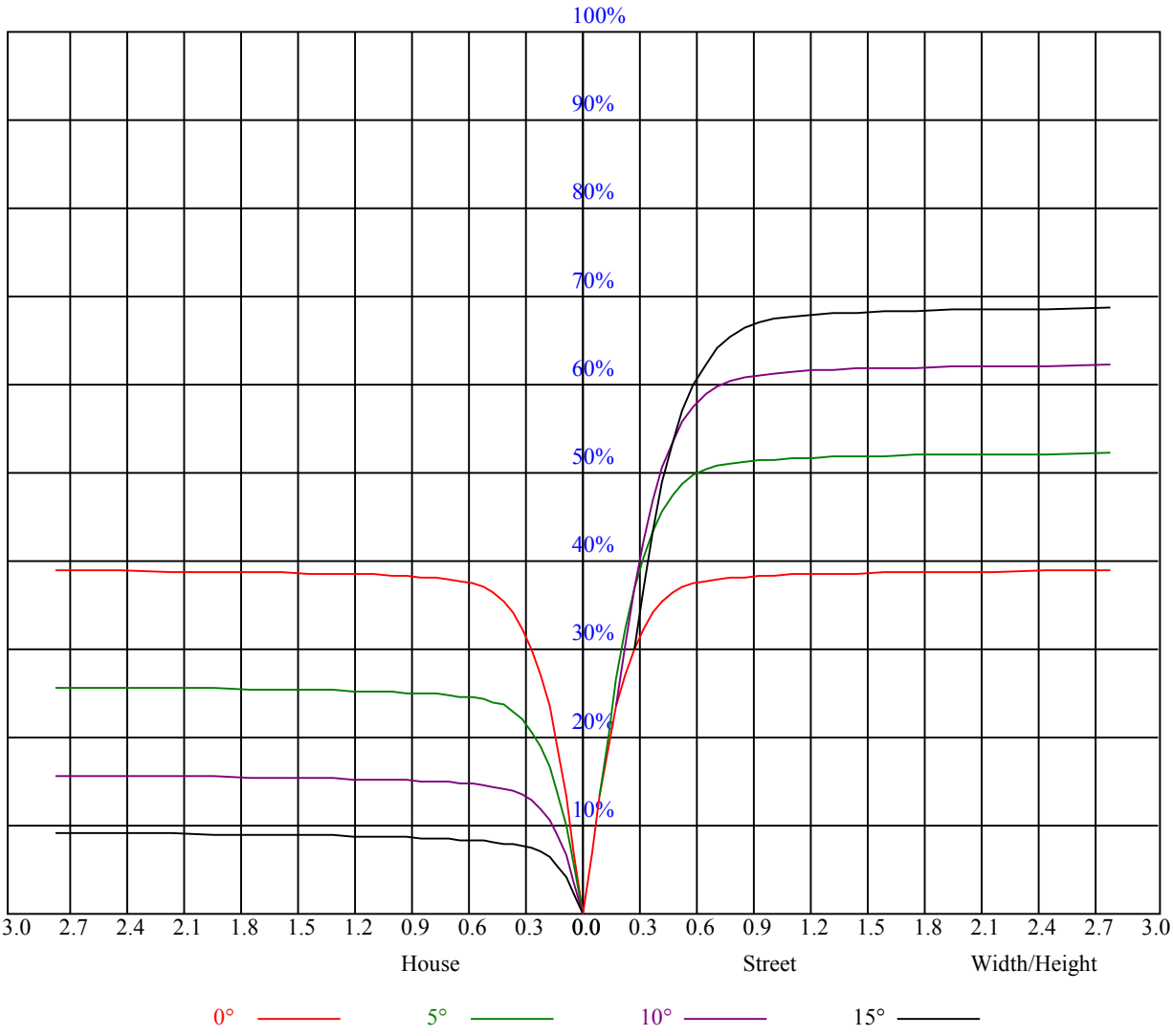


Equipment: GMS1980 Date: 2021/7/06 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	0.93	0.93	0.93	0.91	0.91	0.91	0.87	0.87	0.87	0.84	0.84	0.84	0.80	0.80	0.80	0.79
1	0.88	0.86	0.85	0.86	0.85	0.84	0.83	0.82	0.81	0.80	0.79	0.79	0.78	0.77	0.76	0.75
2	0.83	0.81	0.79	0.82	0.80	0.78	0.80	0.78	0.76	0.77	0.76	0.75	0.75	0.74	0.73	0.72
3	0.80	0.77	0.74	0.79	0.76	0.73	0.77	0.74	0.72	0.75	0.73	0.71	0.73	0.72	0.70	0.69
4	0.76	0.73	0.70	0.75	0.72	0.70	0.74	0.71	0.69	0.72	0.70	0.68	0.71	0.69	0.68	0.67
5	0.73	0.70	0.67	0.73	0.69	0.67	0.71	0.68	0.66	0.70	0.68	0.66	0.69	0.67	0.65	0.64
6	0.70	0.67	0.64	0.70	0.67	0.64	0.69	0.66	0.64	0.68	0.65	0.63	0.67	0.65	0.63	0.62
7	0.68	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.66	0.63	0.61	0.65	0.63	0.61	0.60
8	0.66	0.62	0.60	0.65	0.62	0.60	0.65	0.62	0.60	0.64	0.61	0.59	0.63	0.61	0.59	0.58
9	0.64	0.60	0.58	0.63	0.60	0.58	0.63	0.60	0.58	0.62	0.60	0.58	0.62	0.59	0.57	0.57
10	0.62	0.59	0.56	0.62	0.58	0.56	0.61	0.58	0.56	0.61	0.58	0.56	0.60	0.58	0.56	0.55

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2021/7/06	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

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	8426.25	8457.75	8493.75	8421.19	8174.81	7841.25	7306.88	6678.56	6048.00
45.0	8438.06	8443.13	8301.94	8065.69	7713.56	7183.69	6551.44	5919.19	5198.63
90.0	8435.81	8351.44	8128.69	7707.94	7259.63	6723.56	5933.81	5279.06	4668.75
135.0	8452.69	8391.38	8134.88	7814.81	7404.75	6825.94	6145.88	5487.75	4801.50
180.0	8426.25	8302.50	8052.75	7605.56	7107.75	6537.38	5739.19	5092.31	4499.44
225.0	8438.06	8448.19	8322.75	8073.00	7732.69	7196.06	6540.19	5908.50	5181.75
270.0	8435.81	8451.00	8478.00	8365.50	8146.69	7685.44	7128.56	6621.75	5814.00
315.0	8452.69	8475.19	8480.81	8330.06	8046.00	7655.63	7011.00	6405.75	5735.81
360.0	8426.25	8457.75	8493.75	8421.19	8174.81	7841.25	7306.88	6678.56	6048.00

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	5312.81	4635.56	4098.38	3652.31	3190.50	2874.94	2591.44	2342.81	2065.50
45.0	4536.56	4017.94	3540.38	3183.19	2847.94	2548.13	2313.56	2098.69	1850.63
90.0	4070.25	3582.56	3232.13	2899.13	2607.75	2371.50	2121.75	1919.81	1714.50
135.0	4196.81	3728.25	3295.69	2981.25	2671.88	2401.31	2184.75	1983.94	1754.44
180.0	3925.13	3461.06	3123.00	2795.06	2505.94	2278.13	2045.81	1860.75	1666.13
225.0	4595.06	4014.00	3551.06	3201.19	2851.31	2547.56	2305.69	2089.69	1841.06
270.0	5085.00	4568.63	3930.75	3514.50	3161.81	2785.50	2526.75	2290.50	2019.94
315.0	5002.88	4330.69	3828.38	3364.88	2985.75	2700.56	2424.38	2193.75	1958.06
360.0	5312.81	4635.56	4098.38	3652.31	3190.50	2874.94	2591.44	2342.81	2065.50

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1868.63	1693.69	1495.13	1352.25	1220.06	1082.25	942.75	825.75	696.94
45.0	1668.94	1497.94	1326.94	1190.81	1073.81	930.94	801.00	681.75	568.69
90.0	1519.31	1366.88	1114.48	1068.98	948.15	831.43	694.24	589.50	490.28
135.0	1582.31	1439.44	1252.13	1122.19	1018.69	865.13	739.13	642.94	516.38
180.0	1487.25	1341.00	1114.65	1056.77	935.33	824.29	684.34	588.60	488.14
225.0	1672.88	1520.44	1357.88	1115.38	1084.39	959.46	814.73	702.06	598.50
270.0	1826.44	1654.88	1458.56	1315.13	1184.63	1050.19	916.88	802.69	678.38
315.0	1749.38	1581.19	1428.19	1252.69	1107.96	1002.60	859.11	747.51	642.15
360.0	1868.63	1693.69	1495.13	1352.25	1220.06	1082.25	942.75	825.75	696.94

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	594.00	480.38	381.38	305.44	288.56	174.09	133.31	105.24	88.54
45.0	471.94	369.00	289.13	247.05	164.36	122.57	98.78	88.43	81.17
90.0	389.53	303.30	238.22	178.37	138.21	107.10	92.59	85.50	79.71
135.0	428.06	341.44	288.56	200.53	148.84	112.89	96.24	88.09	81.28
180.0	382.67	305.61	245.31	180.56	143.27	106.93	90.39	84.71	79.37
225.0	486.96	386.21	310.73	243.68	191.19	145.69	108.79	93.04	84.94
270.0	571.50	460.13	361.13	286.88	215.72	161.61	124.88	101.25	86.79
315.0	528.81	422.55	341.21	263.42	205.03	153.28	115.14	96.19	85.44
360.0	594.00	480.38	381.38	305.44	288.56	174.09	133.31	105.24	88.54

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	81.68	76.61	71.66	66.04	61.31	56.03	50.29	45.39	40.33
45.0	76.22	71.72	66.99	60.81	55.91	49.73	44.44	39.88	35.55
90.0	74.14	69.08	64.01	57.77	52.37	47.19	42.02	37.13	33.69
135.0	76.44	71.33	66.38	60.13	55.13	49.05	43.37	38.93	34.88
180.0	73.41	68.91	63.96	56.70	52.03	47.03	41.63	36.96	33.53
225.0	79.37	74.76	69.53	63.39	58.05	53.04	47.42	42.08	37.91
270.0	80.89	76.05	70.76	65.14	60.24	54.62	48.94	44.21	39.26
315.0	78.92	74.36	69.64	63.73	58.78	53.78	47.59	42.81	38.36
360.0	81.68	76.61	71.66	66.04	61.31	56.03	50.29	45.39	40.33

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	36.17	32.40	29.48	27.23	25.43	23.46	22.22	21.09	19.86
45.0	32.63	29.64	27.34	25.48	24.02	22.39	21.21	20.14	19.01
90.0	30.54	27.96	26.16	24.36	23.01	21.66	20.42	19.46	18.62
135.0	31.78	28.97	26.89	25.14	23.74	22.16	21.09	20.08	18.96
180.0	30.32	27.90	25.93	24.19	22.84	21.49	20.42	19.29	18.45
225.0	33.98	30.83	28.41	26.27	24.69	23.12	21.77	20.70	19.74
270.0	35.27	31.67	28.97	26.83	25.09	23.29	21.99	20.93	19.80
315.0	33.58	30.60	28.07	25.65	24.30	22.73	21.26	20.36	19.41
360.0	36.17	32.40	29.48	27.23	25.43	23.46	22.22	21.09	19.86

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	18.96	18.11	17.33	16.59	15.98	15.41	14.91	14.46	14.01
45.0	18.17	17.38	16.76	15.98	15.53	15.02	14.51	14.18	13.78
90.0	17.61	16.93	16.31	15.69	15.19	14.79	14.29	13.95	13.61
135.0	18.17	17.44	16.76	16.09	15.64	15.08	14.68	14.34	14.01
180.0	17.49	16.88	16.31	15.69	15.24	14.79	14.40	14.01	13.67
225.0	18.68	17.89	17.21	16.48	15.92	15.41	14.91	14.51	14.12
270.0	18.90	18.17	17.38	16.65	16.14	15.64	15.13	14.68	14.29
315.0	18.23	17.61	16.93	16.09	15.58	15.13	14.63	14.23	13.89
360.0	18.96	18.11	17.33	16.59	15.98	15.41	14.91	14.46	14.01

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	13.73	13.39	13.11	12.83	12.60	12.26	12.04	11.76	11.42
45.0	13.44	13.11	12.88	12.54	12.32	11.98	11.76	11.48	11.14
90.0	13.28	12.99	12.66	12.38	12.15	11.87	11.48	11.25	10.91
135.0	13.73	13.39	13.05	12.71	12.43	12.09	11.81	11.53	11.08
180.0	13.39	13.05	12.77	12.43	12.15	11.87	11.59	11.25	10.97
225.0	13.73	13.39	13.11	12.83	12.54	12.21	11.93	11.64	11.42
270.0	13.95	13.61	13.33	13.05	12.77	12.49	12.15	11.93	11.59
315.0	13.61	13.28	12.99	12.71	12.49	12.21	11.87	11.64	11.42
360.0	13.73	13.39	13.11	12.83	12.60	12.26	12.04	11.76	11.42

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	11.19	10.86	10.58	10.29	10.07	9.79	9.56	9.34	9.11
45.0	10.80	10.52	10.29	9.96	9.73	9.51	9.28	9.17	9.06
90.0	10.52	10.29	10.07	9.79	9.62	9.39	9.17	9.00	8.89
135.0	10.74	10.46	10.18	9.90	9.73	9.45	9.23	9.00	8.78
180.0	10.58	10.29	10.01	9.73	9.56	9.34	9.11	8.89	8.66
225.0	10.97	10.74	10.41	10.18	9.96	9.79	9.56	9.39	9.17
270.0	11.31	11.03	10.69	10.35	10.13	9.90	9.73	9.51	9.28
315.0	11.08	10.80	10.52	10.24	9.96	9.84	9.62	9.39	9.17
360.0	11.19	10.86	10.58	10.29	10.07	9.79	9.56	9.34	9.11

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	9.00	8.83	8.66	8.55	8.38	8.21	7.99	7.76	7.59
45.0	9.00	9.06	9.06	8.83	8.04	7.76	7.59	7.43	7.31
90.0	8.83	8.78	8.38	8.04	7.82	7.59	7.43	7.31	7.26
135.0	8.55	8.38	8.21	8.04	7.88	7.65	7.54	7.37	7.31
180.0	8.49	8.33	8.16	7.99	7.88	7.65	7.54	7.37	7.31
225.0	9.00	8.83	8.66	8.44	8.38	7.82	7.65	7.48	7.31
270.0	9.11	8.89	8.66	8.44	8.27	8.04	7.82	7.59	7.48
315.0	9.00	8.83	8.66	8.55	8.44	8.10	7.82	7.65	7.43
360.0	9.00	8.83	8.66	8.55	8.38	8.21	7.99	7.76	7.59

Intensity data(cd)

C/γ(°)	90.0
0.0	7.48
45.0	7.26
90.0	7.20
135.0	7.31
180.0	7.31
225.0	7.26
270.0	7.31
315.0	7.37
360.0	7.48