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Nata

Client:

LumCAT: 4-2273-M

Luminaire: 92.70.131.00

Report No: nata-0100

Test No:

LampCAT: CREE CMT1922

Lamp flux(lm): 2545.4

Number of Lamps: 1

Length(mm): 100

Phm Type: C

Voltage(V): 34.8000

Current(A): 0.6000

Power (W): 20.8800

PF: 0.0000

Ballast type: DC

Width(mm): 100

Height(mm): 0

Photometric Results

Lumens(lm): 2312.10, Efficiency(%): 90.84% , Luminous Efficacy(lm/W): 110.73

Central intensity(cd): 29920.400, Maximum intensity(cd): 29920.400

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=10.8

[C90/270]Total=10.8

Field angle(10%Imax): [C0/180]Total=22.4

[C90/270]Total=22.4

Maximum s/h(1/2): C0_180=0.19 C90_270=0.19

Maximum s/h(1/4): C0_180=0.19 C90_270=0.19

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 91.95%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 97.558%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	29920.400	28.633	28.633	1.125%	1.238%
2.0	27343.072	209.282	237.915	8.222%	10.290%
4.0	20973.047	320.857	558.771	12.606%	24.167%
6.0	12176.686	279.144	837.916	10.967%	36.240%
8.0	7202.065	219.825	1057.741	8.636%	45.748%
10.0	3967.295	151.088	1208.829	5.936%	52.283%
12.0	2283.533	104.124	1312.953	4.091%	56.786%
14.0	1449.958	76.930	1389.883	3.022%	60.113%
16.0	1143.590	69.131	1459.014	2.716%	63.103%
18.0	999.384	67.730	1526.744	2.661%	66.033%
20.0	937.858	70.348	1597.092	2.764%	69.075%
22.0	893.689	73.422	1670.515	2.885%	72.251%
24.0	858.529	76.583	1747.098	3.009%	75.563%
26.0	834.696	80.248	1827.346	3.153%	79.034%
28.0	812.061	83.611	1910.957	3.285%	82.650%
30.0	787.300	86.333	1997.29	3.392%	86.384%
32.0	755.917	87.852	2085.141	3.451%	90.184%
34.0	657.484	80.633	2165.774	3.168%	93.671%
36.0	442.929	57.098	2222.872	2.243%	96.141%
38.0	235.552	31.805	2254.676	1.250%	97.516%
40.0	62.062	8.749	2263.425	.344%	97.895%
42.0	21.582	3.167	2266.593	.124%	98.032%
44.0	14.046	2.140	2268.733	.084%	98.124%
46.0	11.534	1.820	2270.552	.071%	98.203%
48.0	11.053	1.801	2272.354	.071%	98.281%
50.0	10.688	1.796	2274.149	.071%	98.359%
52.0	10.371	1.792	2275.942	.070%	98.436%
54.0	10.130	1.797	2277.739	.071%	98.514%
56.0	9.965	1.812	2279.551	.071%	98.592%
58.0	9.821	1.827	2281.377	.072%	98.671%
60.0	9.738	1.850	2283.227	.073%	98.751%
62.0	9.656	1.870	2285.097	.073%	98.832%
64.0	9.587	1.890	2286.986	.074%	98.914%
66.0	9.532	1.910	2288.896	.075%	98.996%
68.0	9.497	1.931	2290.827	.076%	99.080%
70.0	9.477	1.953	2292.78	.077%	99.164%
72.0	9.449	1.971	2294.751	.077%	99.250%
74.0	9.442	1.991	2296.742	.078%	99.336%

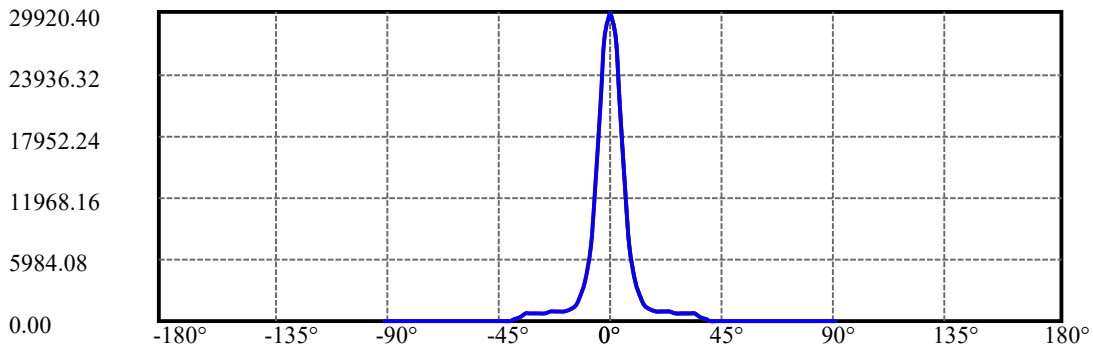
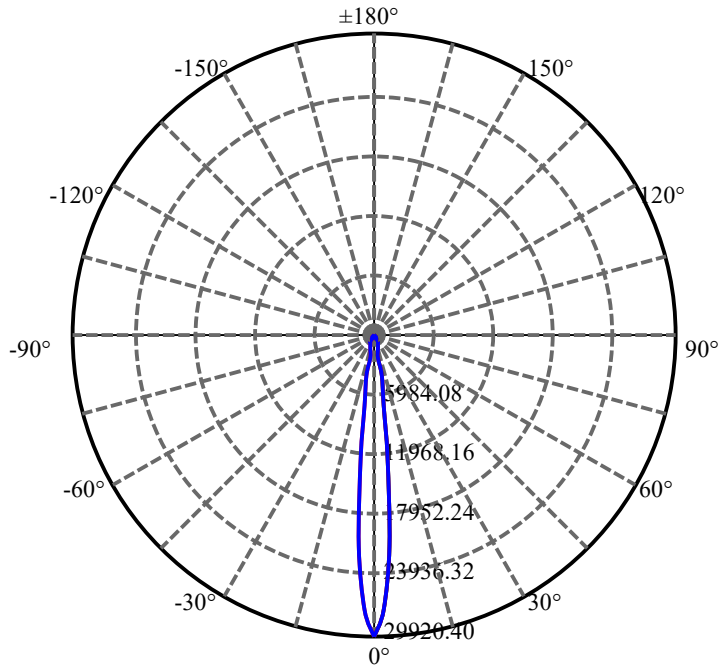
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	9.442	2.009	2298.751	.079%	99.423%
78.0	9.470	2.031	2300.782	.080%	99.511%
80.0	9.525	2.057	2302.84	.081%	99.600%
82.0	9.483	2.060	2304.899	.081%	99.689%
84.0	9.470	2.065	2306.965	.081%	99.778%
86.0	9.428	2.063	2309.027	.081%	99.867%
88.0	9.339	2.047	2311.074	.080%	99.956%
90.0	9.339	1.024	2312.098	.040%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1997.29	78.47%	86.38%
0-40	2263.43	88.92%	97.89%
0-60	2283.23	89.70%	98.75%
0-90	2311.07	90.80%	99.96%
0-120	2311.07	90.80%	99.96%
0-180	2312.10	90.84%	100.00%
60-90	29.70	1.17%	1.28%
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%
0-26.53	1849.68	72.67%	80.00%

ZONAL LUMEN SUMMARY

0-10	1208.83
10-20	388.26
20-30	400.20
30-40	266.14
40-50	10.72
50-60	9.08
60-70	9.55
70-80	10.06
80-90	8.23
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



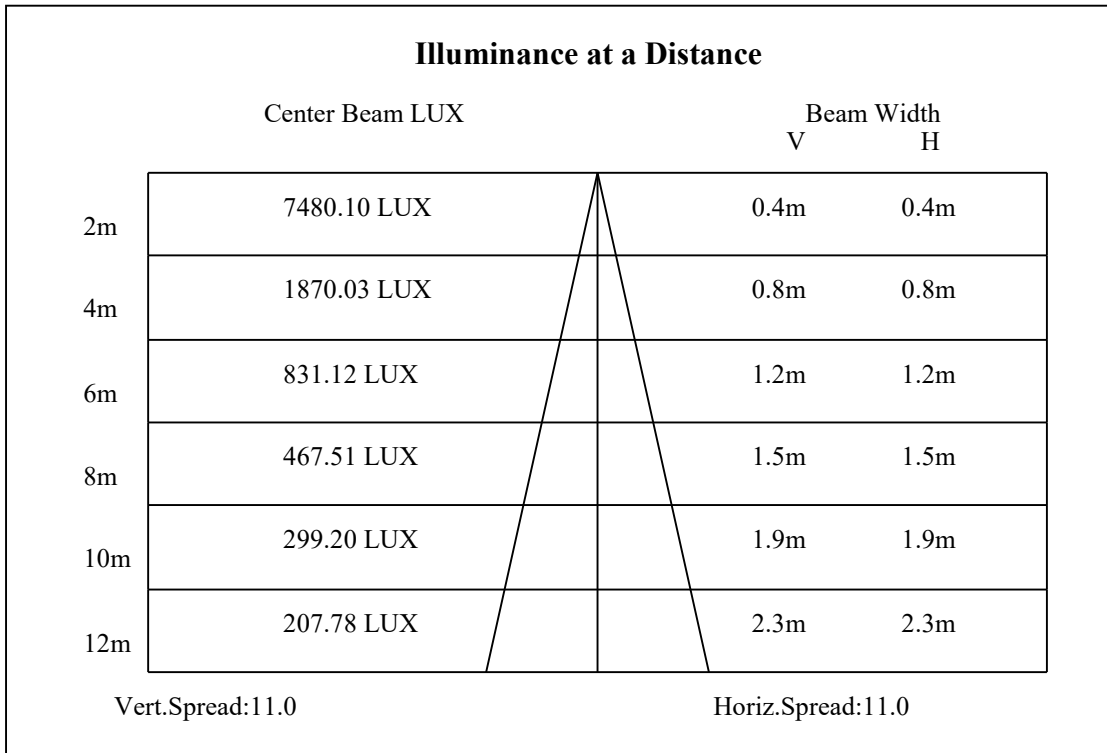
C0(Max): —————

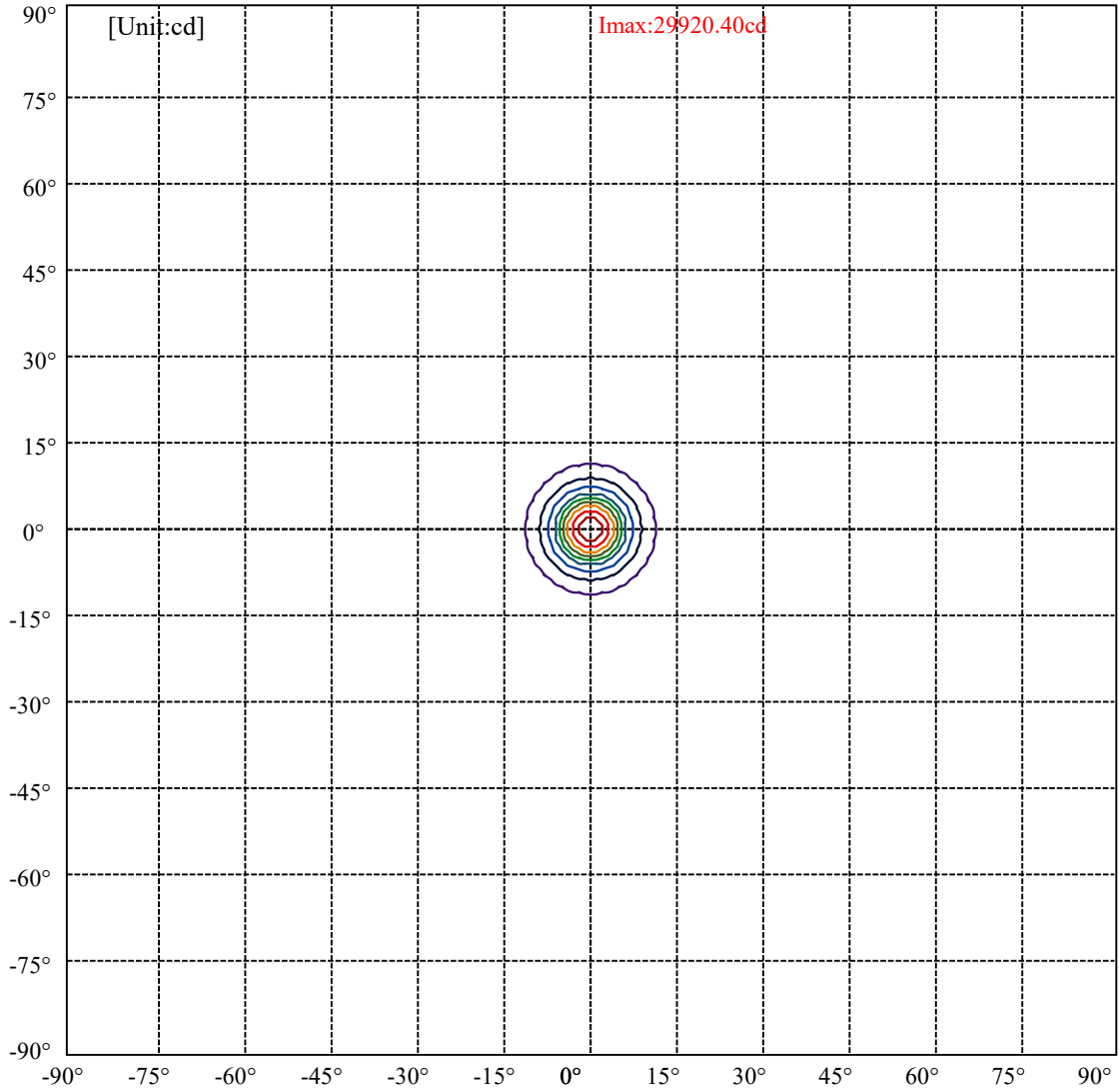
C0/C180: —————

C90/C270: —————

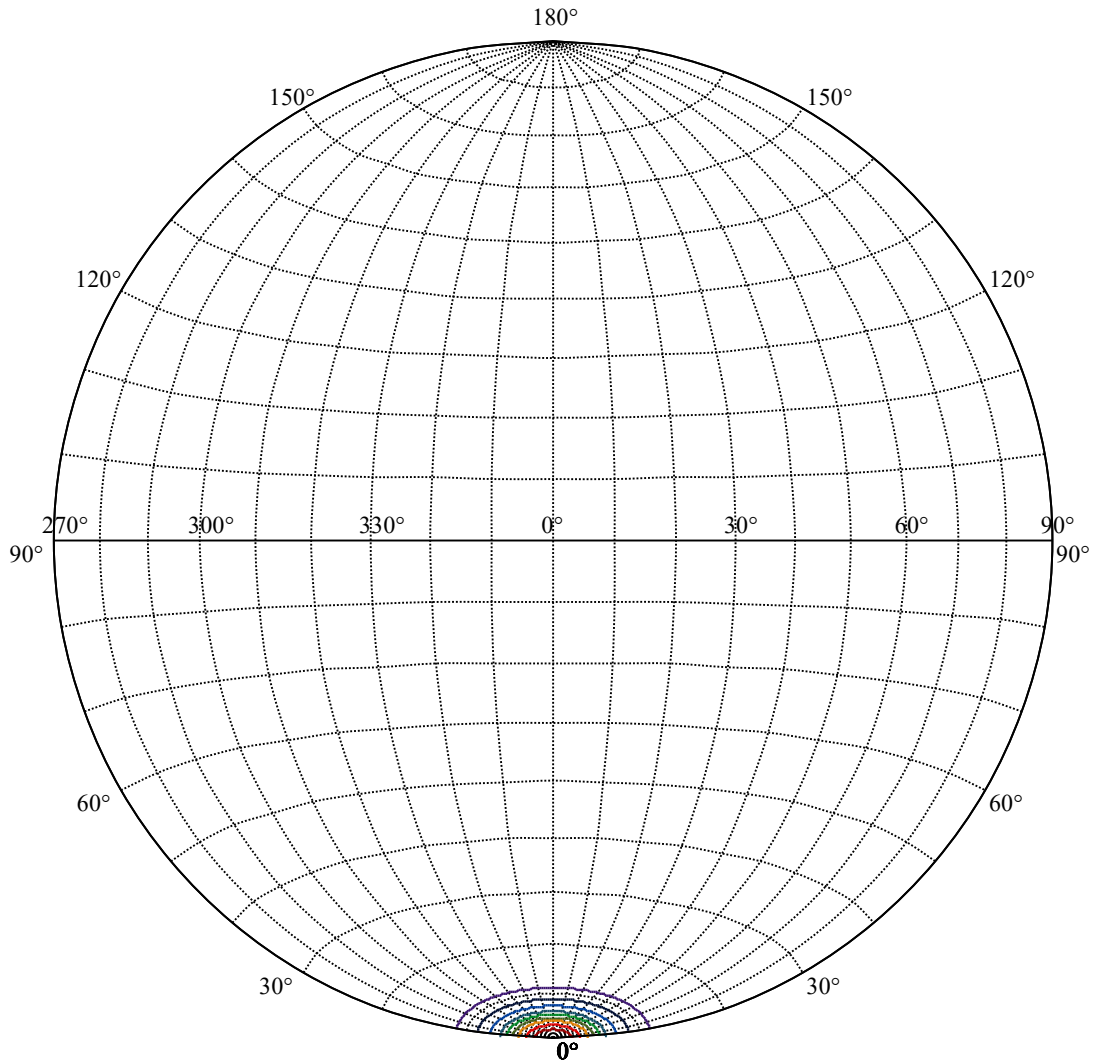
Field angle(10%Imax):C0/180Left:11.2 Right:11.2
:C90/270Left:11.2 Right:11.2

Beam Angle(50%Imax):C0/180Left:5.4 Right:5.4
:C90/270Left:5.4 Right:5.4





(10%Imax) 2992.04	—
(20%Imax) 5984.08	—
(30%Imax) 8976.12	—
(40%Imax) 11968.2	—
(50%Imax) 14960.2	—
(60%Imax) 17952.2	—
(70%Imax) 20944.3	—
(80%Imax) 23936.3	—
(90%Imax) 26928.4	—



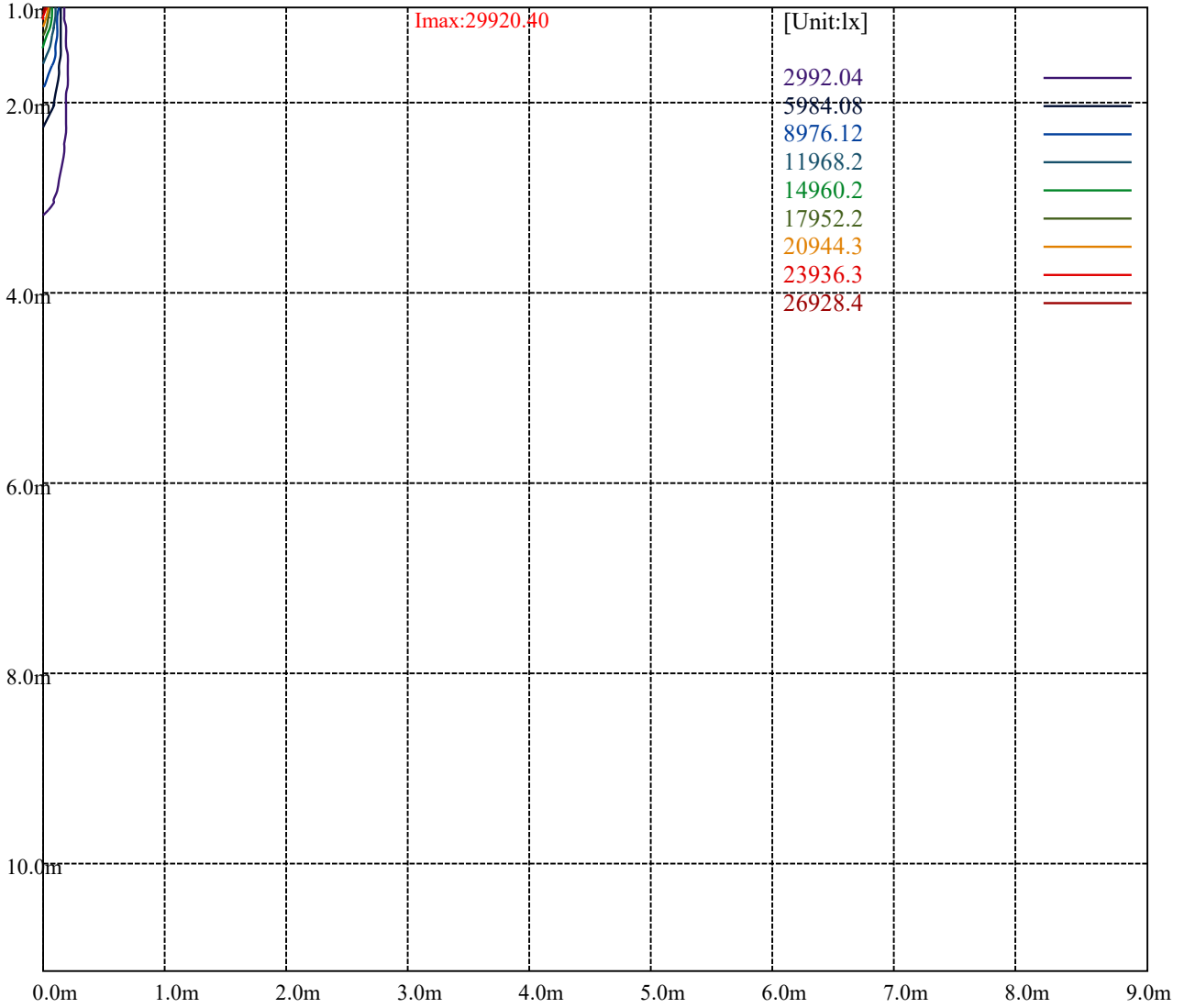
House

[Unit:cd]

Road

Imax:29920.40

(10%Imax) 2992.04	—
(20%Imax) 5984.08	—
(30%Imax) 8976.12	—
(40%Imax) 11968.2	—
(50%Imax) 14960.2	—
(60%Imax) 17952.2	—
(70%Imax) 20944.3	—
(80%Imax) 23936.3	—
(90%Imax) 26928.4	—



Luminance Table

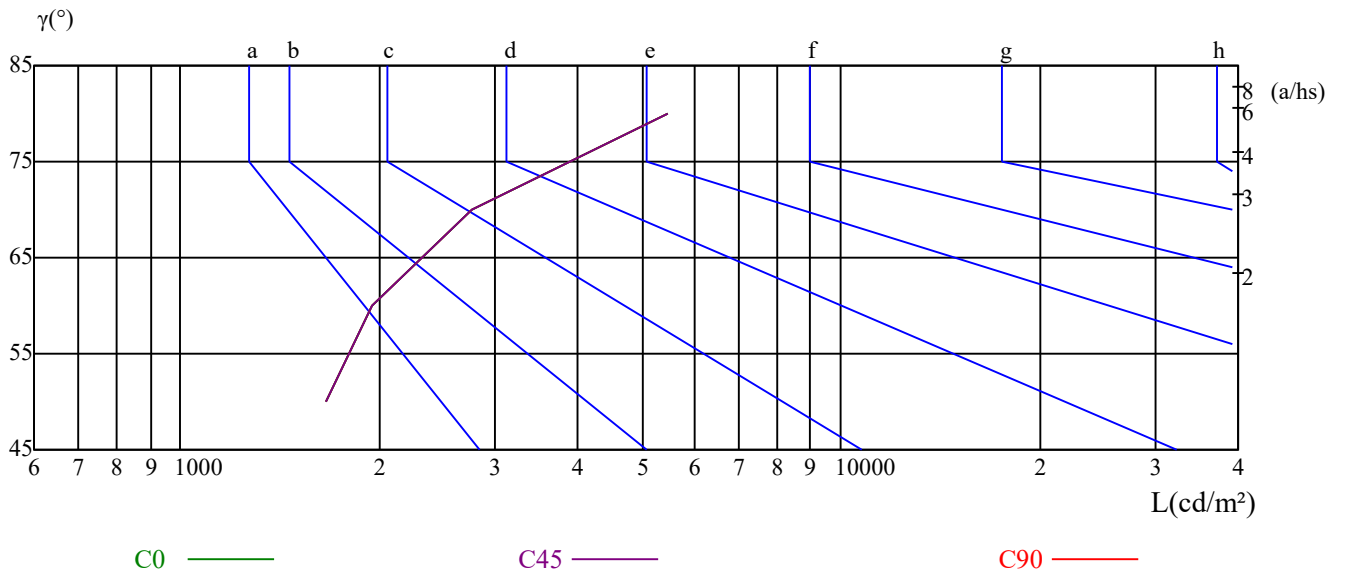
γ	45	50	55	60	65	70	75	80	85
C0	0	1663	0	1948	0	2771	0	5485	0
C45	0	1663	0	1948	0	2771	0	5485	0
C90	0	1663	0	1948	0	2771	0	5485	0

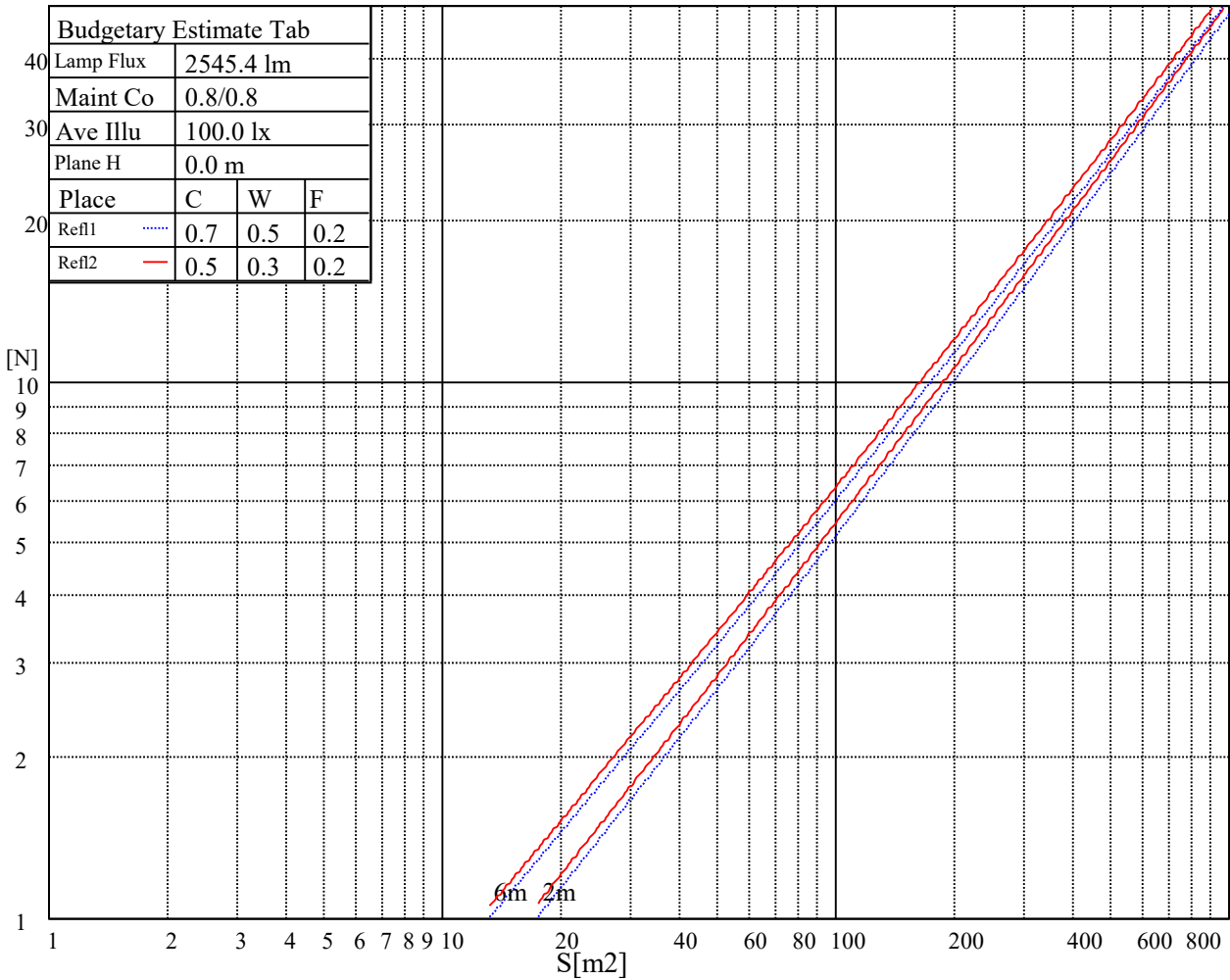
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2360	2360	2360	5164	5164	5164	11465	11465	11465

Glare Table

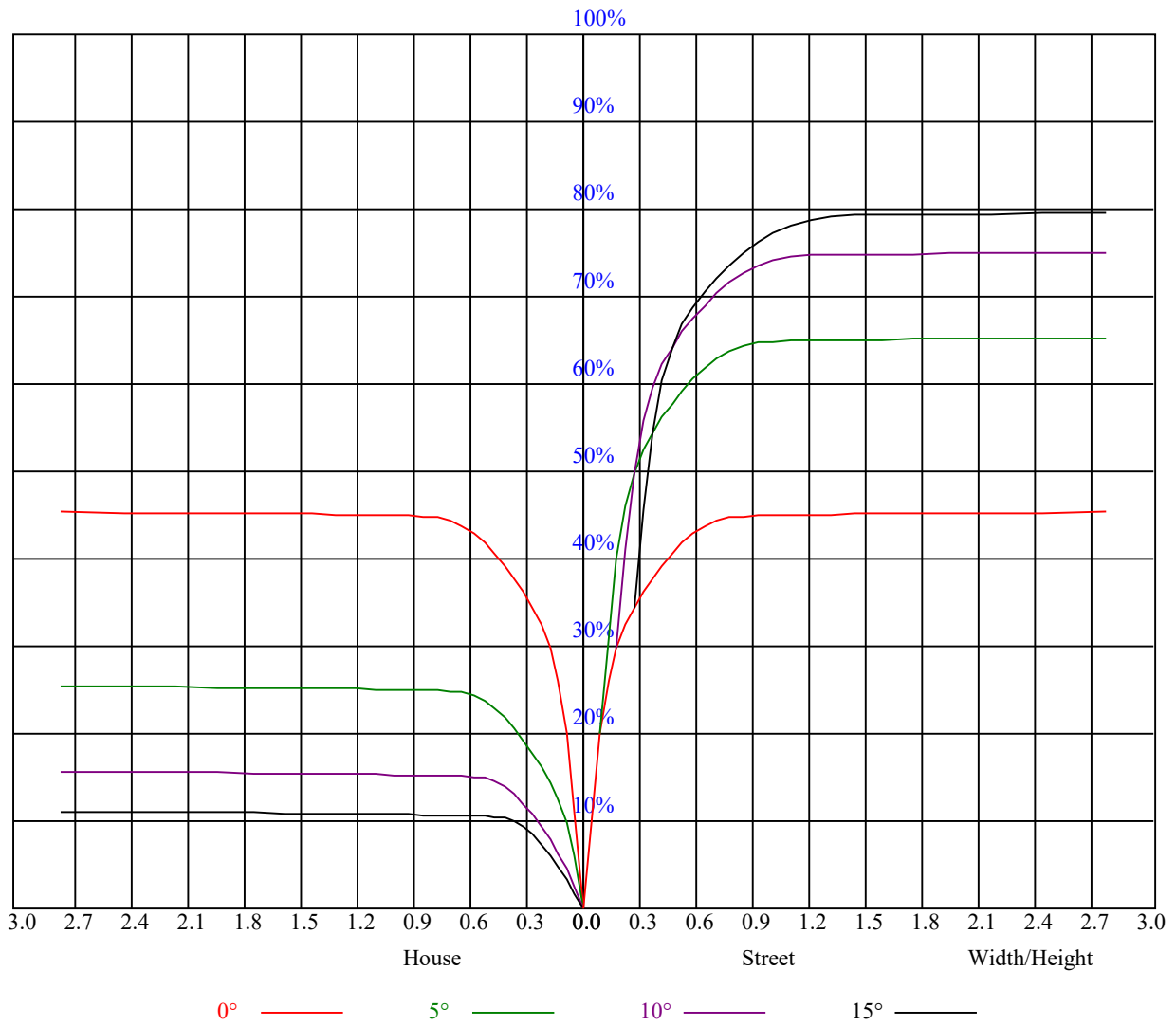
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

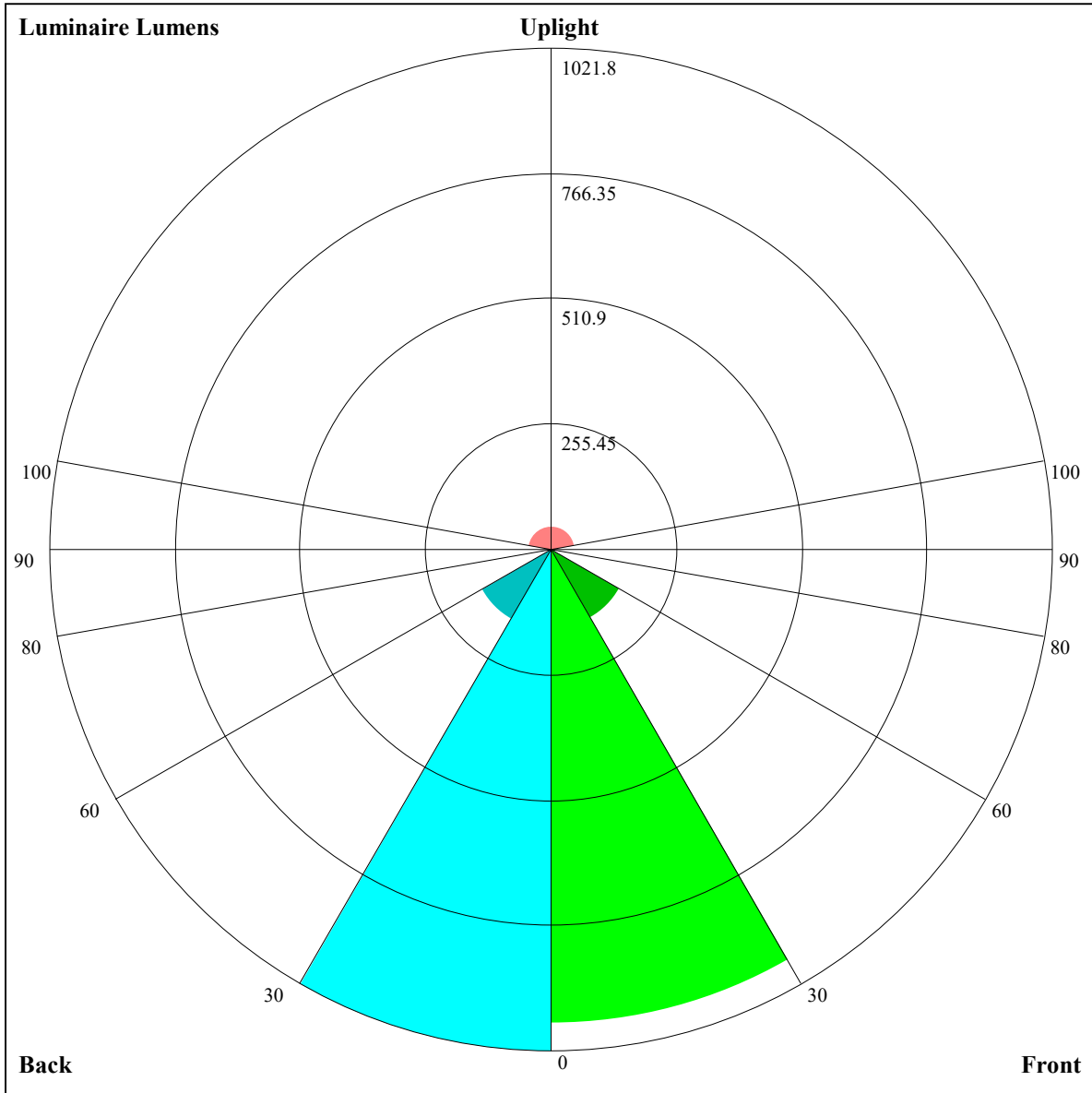
Luminance Limiting Curve





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	1.09	1.09	1.09	1.07	1.07	1.07	1.02	1.02	1.02	0.98	0.98	0.98	0.94	0.94	0.94	0.92
1	1.02	1.00	0.98	1.00	0.98	0.96	0.96	0.95	0.93	0.93	0.92	0.91	0.90	0.89	0.88	0.86
2	0.97	0.94	0.91	0.96	0.93	0.90	0.93	0.90	0.88	0.90	0.88	0.86	0.88	0.86	0.85	0.83
3	0.93	0.89	0.86	0.92	0.88	0.86	0.89	0.87	0.84	0.87	0.85	0.83	0.85	0.83	0.82	0.80
4	0.89	0.85	0.82	0.88	0.85	0.82	0.86	0.83	0.81	0.85	0.82	0.80	0.83	0.81	0.79	0.78
5	0.86	0.82	0.79	0.85	0.81	0.79	0.84	0.80	0.78	0.82	0.80	0.77	0.81	0.79	0.77	0.76
6	0.83	0.79	0.76	0.82	0.79	0.76	0.81	0.78	0.75	0.80	0.77	0.75	0.79	0.77	0.75	0.74
7	0.81	0.77	0.74	0.80	0.76	0.74	0.79	0.76	0.73	0.78	0.75	0.73	0.77	0.75	0.73	0.72
8	0.78	0.74	0.72	0.78	0.74	0.72	0.77	0.74	0.71	0.76	0.73	0.71	0.75	0.73	0.71	0.70
9	0.76	0.72	0.70	0.76	0.72	0.70	0.75	0.72	0.69	0.74	0.71	0.69	0.74	0.71	0.69	0.68
10	0.74	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.68	0.73	0.70	0.68	0.72	0.70	0.68	0.67





Luminaire Lumens:

FL=964.32,FM=161.02,FH=9.78,FVH=5.16

BL=1021.8,BM=165.6,BH=9.75,BVH=5.14

UL=10.19,UH=48.49

BUG Rating:B3-U2-G0

Intensity data(cd)

C/γ(°)	0.0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0
0.0	30347.09	27098.76	20508.51	11914.20	6639.80	3716.31	2404.31	1467.25	1145.72
45.0	29950.68	24483.58	16263.66	9062.28	4988.11	2780.35	1669.31	1198.03	1038.36
90.0	29328.54	23789.87	15388.26	8344.35	4498.66	2398.26	1485.97	1096.56	993.60
135.0	30055.29	27197.86	20249.74	11534.32	6243.40	3407.99	1912.11	1268.50	1063.14
180.0	30347.09	28183.37	21752.78	10711.77	6984.45	3828.07	2129.58	1352.74	1095.24
225.0	29950.68	30270.01	25573.70	16979.39	9979.52	5304.13	2916.34	1743.64	1261.34
270.0	29328.54	29978.21	26443.59	18097.04	10620.38	6149.80	3352.93	1939.64	1353.29
315.0	30055.29	27742.92	21604.13	10770.13	7662.20	4153.45	2397.71	1533.32	1198.03
360.0	30347.09	27098.76	20508.51	11914.20	6639.80	3716.31	2404.31	1467.25	1145.72
C/γ(°)	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0
0.0	994.87	938.16	900.72	867.69	844.57	820.89	795.01	775.74	690.96
45.0	954.68	916.69	876.50	843.46	819.24	798.87	773.54	728.40	559.92
90.0	931.61	895.99	857.83	830.86	810.54	788.30	763.74	698.39	495.73
135.0	963.49	916.14	879.80	847.87	824.19	803.27	779.60	750.97	624.89
180.0	982.04	929.74	885.20	850.73	827.50	806.03	781.20	756.86	659.91
225.0	1040.02	962.44	912.23	872.64	846.22	822.27	797.33	774.92	744.91
270.0	1104.98	988.81	932.66	885.86	859.98	835.21	812.08	787.31	764.73
315.0	1023.39	954.90	904.58	869.12	845.34	821.66	795.90	774.75	718.82
360.0	994.87	938.16	900.72	867.69	844.57	820.89	795.01	775.74	690.96
C/γ(°)	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
0.0	459.72	286.29	43.66	21.25	12.88	11.51	11.01	10.63	10.30
45.0	313.82	94.20	27.14	18.88	11.51	11.01	10.63	10.41	10.13
90.0	247.59	67.83	24.56	15.64	11.51	11.01	10.63	10.41	10.13
135.0	383.74	218.41	28.57	19.71	12.06	11.40	11.01	10.68	10.41
180.0	426.63	212.30	40.30	21.14	12.11	11.29	10.85	10.52	10.24
225.0	577.71	347.41	112.54	24.61	16.68	11.84	11.29	10.85	10.46
270.0	635.90	385.95	158.40	28.30	20.37	12.33	11.67	11.12	10.74
315.0	498.32	272.03	61.33	23.12	15.25	11.89	11.34	10.90	10.57
360.0	459.72	286.29	43.66	21.25	12.88	11.51	11.01	10.63	10.30
C/γ(°)	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
0.0	10.08	9.91	9.74	9.69	9.63	9.52	9.52	9.47	9.47
45.0	9.97	9.86	9.74	9.69	9.58	9.58	9.52	9.47	9.47
90.0	9.97	9.86	9.80	9.69	9.63	9.58	9.52	9.47	9.47
135.0	10.13	10.02	9.86	9.80	9.74	9.63	9.58	9.52	9.52
180.0	10.02	9.86	9.74	9.69	9.63	9.52	9.47	9.47	9.47
225.0	10.19	9.97	9.80	9.69	9.58	9.52	9.47	9.47	9.41
270.0	10.41	10.19	9.97	9.86	9.74	9.69	9.58	9.58	9.52
315.0	10.30	10.08	9.91	9.80	9.69	9.63	9.58	9.52	9.47
360.0	10.08	9.91	9.74	9.69	9.63	9.52	9.52	9.47	9.47
C/γ(°)	72.0	74.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0
0.0	9.41	9.41	9.41	9.41	9.58	9.47	9.41	9.41	9.30
45.0	9.47	9.47	9.58	9.74	9.69	9.52	9.47	9.36	9.30
90.0	9.41	9.41	9.41	9.41	9.52	9.41	9.41	9.36	9.36
135.0	9.47	9.47	9.41	9.41	9.47	9.41	9.41	9.41	9.36
180.0	9.41	9.41	9.41	9.41	9.41	9.41	9.47	9.47	9.36
225.0	9.41	9.36	9.36	9.41	9.36	9.36	9.36	9.36	9.30
270.0	9.52	9.52	9.47	9.47	9.58	9.69	9.69	9.63	9.36
315.0	9.47	9.47	9.47	9.47	9.58	9.58	9.52	9.41	9.36
360.0	9.41	9.41	9.41	9.41	9.58	9.47	9.41	9.41	9.30

Intensity data(cd)

C/γ(°)	90.0
0.0	9.36
45.0	9.30
90.0	9.36
135.0	9.36
180.0	9.30
225.0	9.30
270.0	9.36
315.0	9.36
360.0	9.36