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Nata

Client:

LumCAT: 2-2323-M

Luminaire: 92.70.129.00

Report No: 210724-B009

Ballast type:

Test No: 210724-C009

LampCAT: CREE CXA1820 LES12

Lamp flux(lm): 2199.5

Number of Lamps: 1

Length(mm): 570

Phm Type: C

Voltage(V):

Current(A):

Power (W): 18.331

PF:

Width(mm): 45

Height(mm): 20

Photometric Results

Lumens(lm): 2050.24, Efficiency(%): 93.21% , Luminous Efficacy(lm/W): 111.85

Central intensity(cd): 2665.688, Maximum intensity(cd): 4576.500

Angle of maximum intensity: C=90.0 γ =13.0

Beam Angle(50%Imax): [C0/180]Total=48.5

[C90/270]Total=34.8

Field angle(10%Imax): [C0/180]Total=66.3

[C90/270]Total=59.9

Maximum s/h(1/2): C0_180=0.70 C90_270=0.98

Maximum s/h(1/4): C0_180=0.71 C90_270=0.79

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 93.21%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 98.246%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2710.266	0.000	0	0.00%	0.00%
1.0	2714.731	2.596	2.596	0.12%	0.13%
2.0	2729.813	7.815	10.41	0.36%	0.51%
3.0	2756.813	13.122	23.532	0.60%	1.15%
4.0	2785.782	18.553	42.085	0.84%	2.05%
5.0	2823.610	24.131	66.217	1.10%	3.23%
6.0	2865.164	29.896	96.113	1.36%	4.69%
7.0	2904.856	35.814	131.927	1.63%	6.43%
8.0	2930.836	41.765	173.692	1.90%	8.47%
9.0	2954.918	47.701	221.393	2.17%	10.80%
10.0	2956.289	53.494	274.887	2.43%	13.41%
11.0	2949.012	59.006	333.893	2.68%	16.29%
12.0	2925.246	64.214	398.107	2.92%	19.42%
13.0	2877.645	68.866	466.973	3.13%	22.78%
14.0	2813.625	72.848	539.821	3.31%	26.33%
15.0	2734.981	76.174	615.994	3.46%	30.05%
16.0	2636.789	78.711	694.706	3.58%	33.88%
17.0	2521.828	80.334	775.039	3.65%	37.80%
18.0	2412.739	81.360	856.4	3.70%	41.77%
19.0	2307.164	82.117	938.516	3.73%	45.78%
20.0	2199.516	82.485	1021.001	3.75%	49.80%
21.0	2095.207	82.467	1103.469	3.75%	53.82%
22.0	1993.078	82.156	1185.624	3.74%	57.83%
23.0	1884.161	81.355	1266.979	3.70%	61.80%
24.0	1764.348	79.769	1346.749	3.63%	65.69%
25.0	1647.689	77.582	1424.331	3.53%	69.47%
26.0	1518.459	74.737	1499.068	3.40%	73.12%
27.0	1388.820	71.127	1570.196	3.23%	76.59%
28.0	1226.440	66.213	1636.408	3.01%	79.82%
29.0	1078.200	60.296	1696.704	2.74%	82.76%
30.0	928.983	54.194	1750.898	2.46%	85.40%
31.0	774.127	47.395	1798.293	2.15%	87.71%
32.0	630.823	40.250	1838.543	1.83%	89.67%
33.0	510.114	33.612	1872.155	1.53%	91.31%
34.0	403.485	27.648	1899.804	1.26%	92.66%
35.0	318.361	22.418	1922.222	1.02%	93.76%
36.0	237.368	17.695	1939.916	0.80%	94.62%
37.0	175.725	13.473	1953.389	0.61%	95.28%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	133.559	10.323	1963.712	0.47%	95.78%
39.0	95.073	7.804	1971.516	0.35%	96.16%
40.0	71.294	5.802	1977.318	0.26%	96.44%
41.0	53.670	4.450	1981.768	0.20%	96.66%
42.0	41.245	3.448	1985.217	0.16%	96.83%
43.0	33.870	2.782	1987.999	0.13%	96.96%
44.0	29.103	2.377	1990.376	0.11%	97.08%
45.0	25.471	2.097	1992.473	0.10%	97.18%
46.0	22.904	1.892	1994.365	0.09%	97.27%
47.0	21.024	1.747	1996.112	0.08%	97.36%
48.0	19.716	1.647	1997.759	0.07%	97.44%
49.0	18.717	1.578	1999.337	0.07%	97.52%
50.0	17.758	1.521	2000.858	0.07%	97.59%
51.0	16.893	1.466	2002.324	0.07%	97.66%
52.0	16.239	1.422	2003.746	0.06%	97.73%
53.0	15.624	1.386	2005.132	0.06%	97.80%
54.0	15.156	1.357	2006.488	0.06%	97.87%
55.0	14.836	1.339	2007.827	0.06%	97.93%
56.0	14.435	1.323	2009.15	0.06%	98.00%
57.0	14.063	1.303	2010.453	0.06%	98.06%
58.0	13.746	1.286	2011.739	0.06%	98.12%
59.0	13.486	1.273	2013.012	0.06%	98.18%
60.0	13.233	1.262	2014.274	0.06%	98.25%
61.0	13.008	1.252	2015.527	0.06%	98.31%
62.0	12.825	1.245	2016.771	0.06%	98.37%
63.0	12.709	1.242	2018.013	0.06%	98.43%
64.0	12.551	1.240	2019.253	0.06%	98.49%
65.0	12.460	1.238	2020.491	0.06%	98.55%
66.0	12.365	1.239	2021.729	0.06%	98.61%
67.0	12.263	1.238	2022.967	0.06%	98.67%
68.0	12.178	1.238	2024.206	0.06%	98.73%
69.0	12.080	1.238	2025.443	0.06%	98.79%
70.0	12.052	1.239	2026.682	0.06%	98.85%
71.0	12.010	1.244	2027.926	0.06%	98.91%
72.0	11.964	1.247	2029.173	0.06%	98.97%
73.0	11.894	1.248	2030.42	0.06%	99.03%
74.0	11.791	1.245	2031.665	0.06%	99.09%
75.0	11.683	1.240	2032.906	0.06%	99.15%

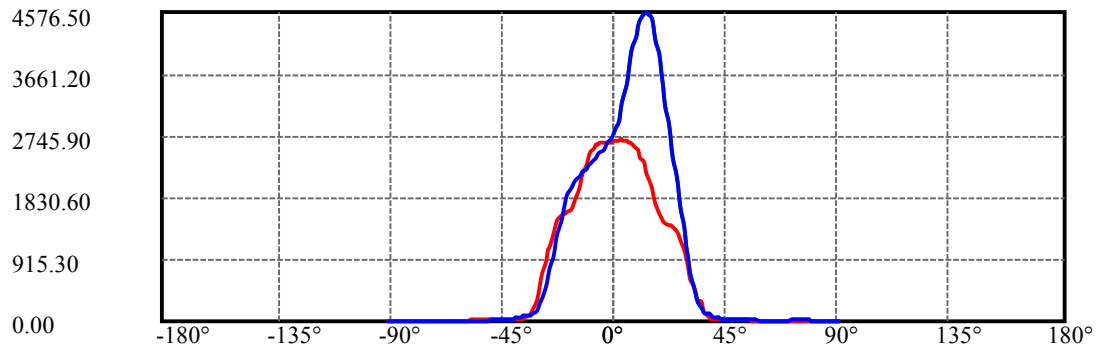
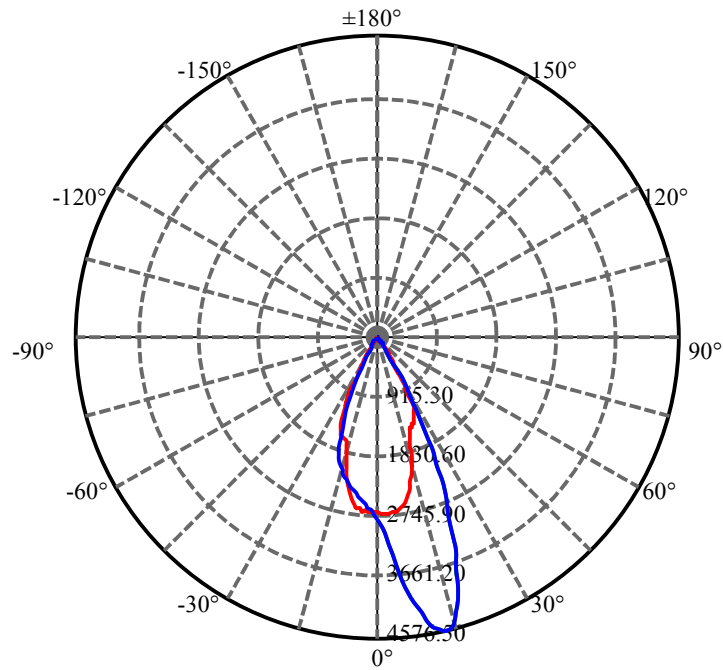
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	11.588	1.235	2034.141	0.06%	99.21%
77.0	11.489	1.230	2035.371	0.06%	99.27%
78.0	11.408	1.226	2036.597	0.06%	99.33%
79.0	11.320	1.221	2037.818	0.06%	99.39%
80.0	11.250	1.217	2039.035	0.06%	99.45%
81.0	11.183	1.213	2040.248	0.06%	99.51%
82.0	10.930	1.199	2041.447	0.05%	99.57%
83.0	10.698	1.176	2042.623	0.05%	99.63%
84.0	10.575	1.159	2043.782	0.05%	99.69%
85.0	10.115	1.129	2044.911	0.05%	99.74%
86.0	9.876	1.093	2046.004	0.05%	99.79%
87.0	9.742	1.074	2047.078	0.05%	99.85%
88.0	9.703	1.065	2048.143	0.05%	99.90%
89.0	9.622	1.059	2049.202	0.05%	99.95%
90.0	9.285	1.037	2050.239	0.05%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1750.90	79.60%	85.40%
0-40	1977.32	89.90%	96.44%
0-60	2014.27	91.58%	98.25%
0-90	2049.20	93.17%	99.95%
0-120	2049.20	93.17%	99.95%
0-180	2050.24	93.21%	100.00%
60-90	34.93	1.59%	1.70%
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%
0-28.06	1640.19	74.57%	80.00%

ZONAL LUMEN SUMMARY

0-10	274.89
10-20	746.11
20-30	729.90
30-40	226.42
40-50	23.54
50-60	13.42
60-70	12.41
70-80	12.35
80-90	10.17
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



C90(Max):

C0/C180:

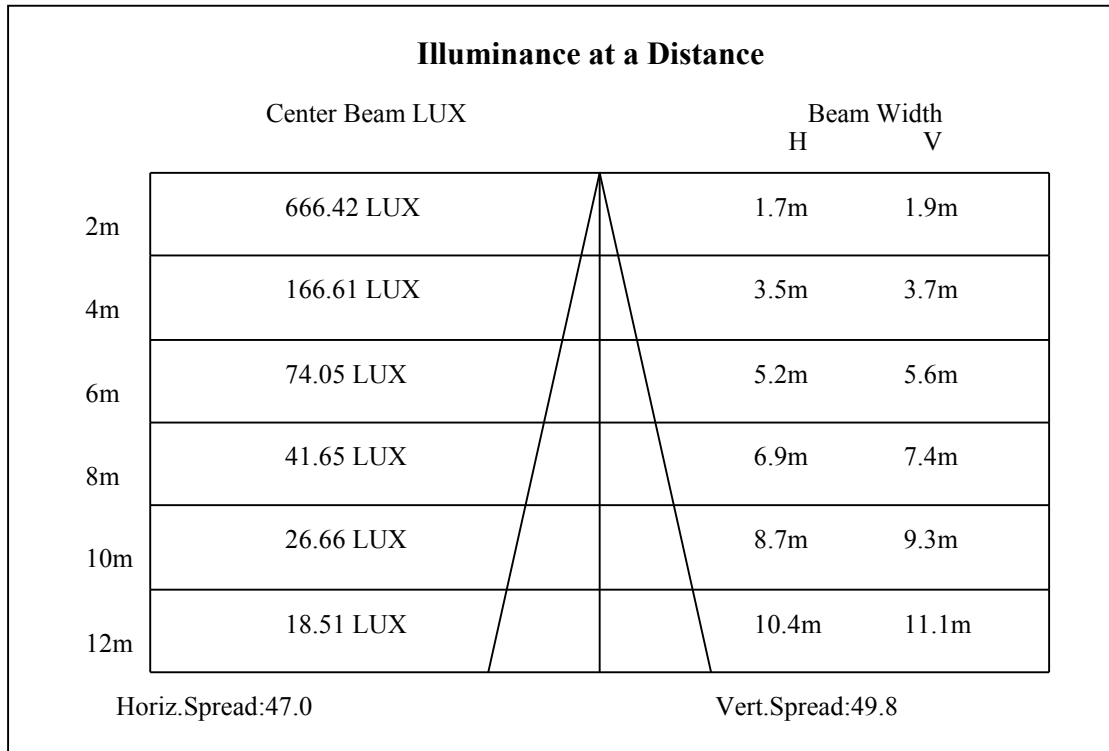
C90/C270:

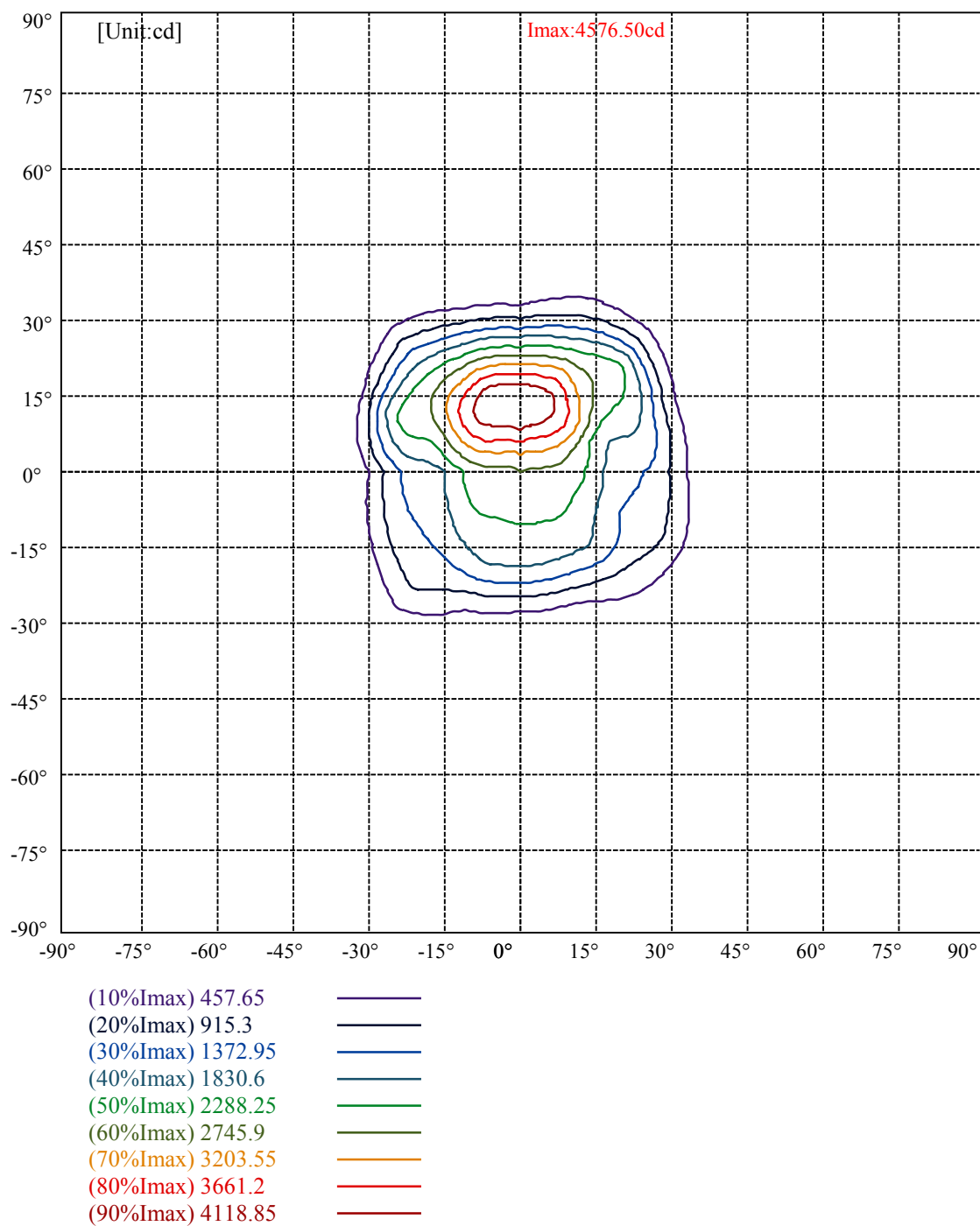
Field angle(10%Imax):C0/180Left:34.1 Right:32.2

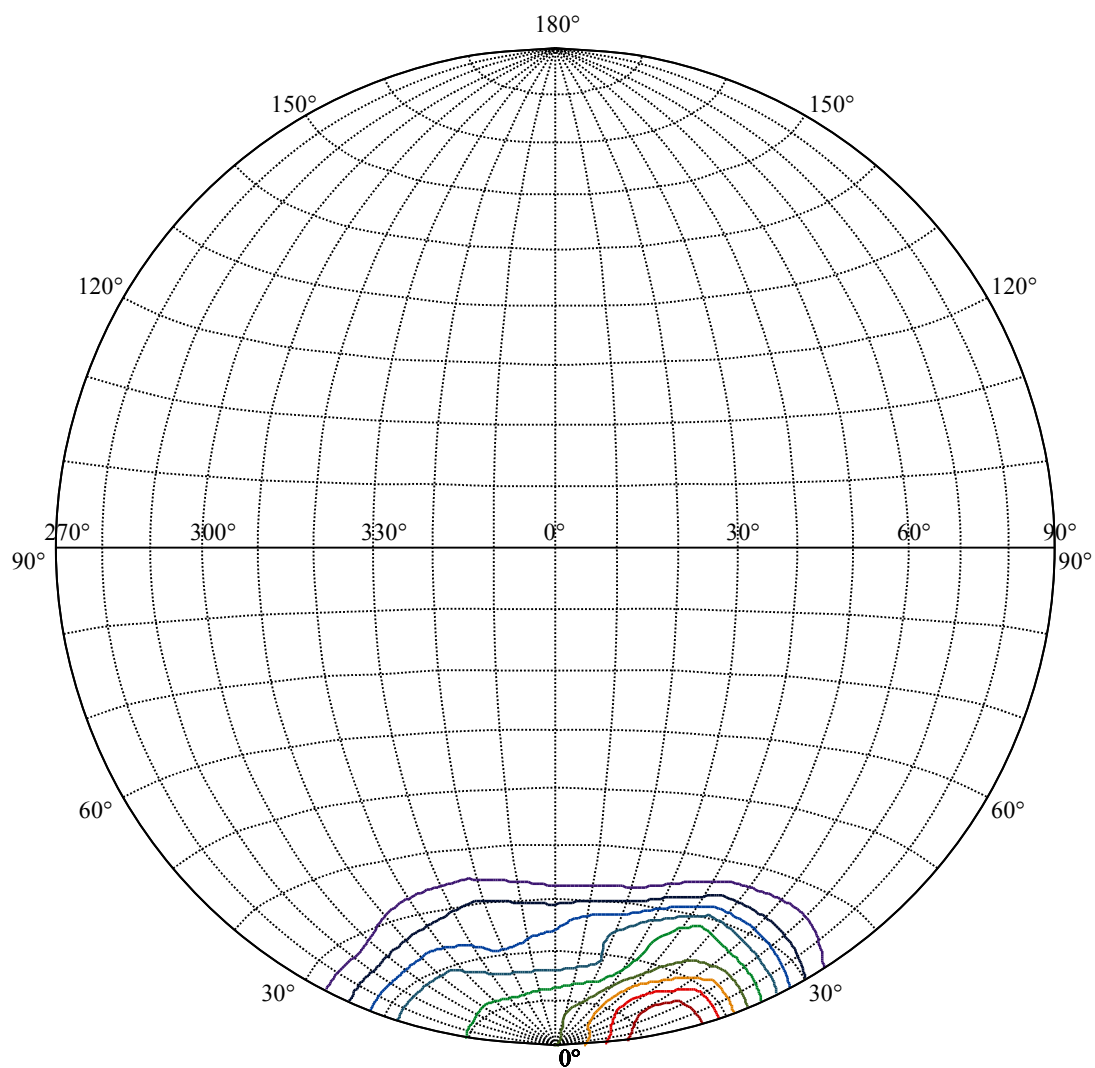
:C90/270Left:40.4 Right:19.5

Beam Angle(50%Imax):C0/180Left:26.7 Right:21.8

:C90/270Left:23.3 Right:11.5







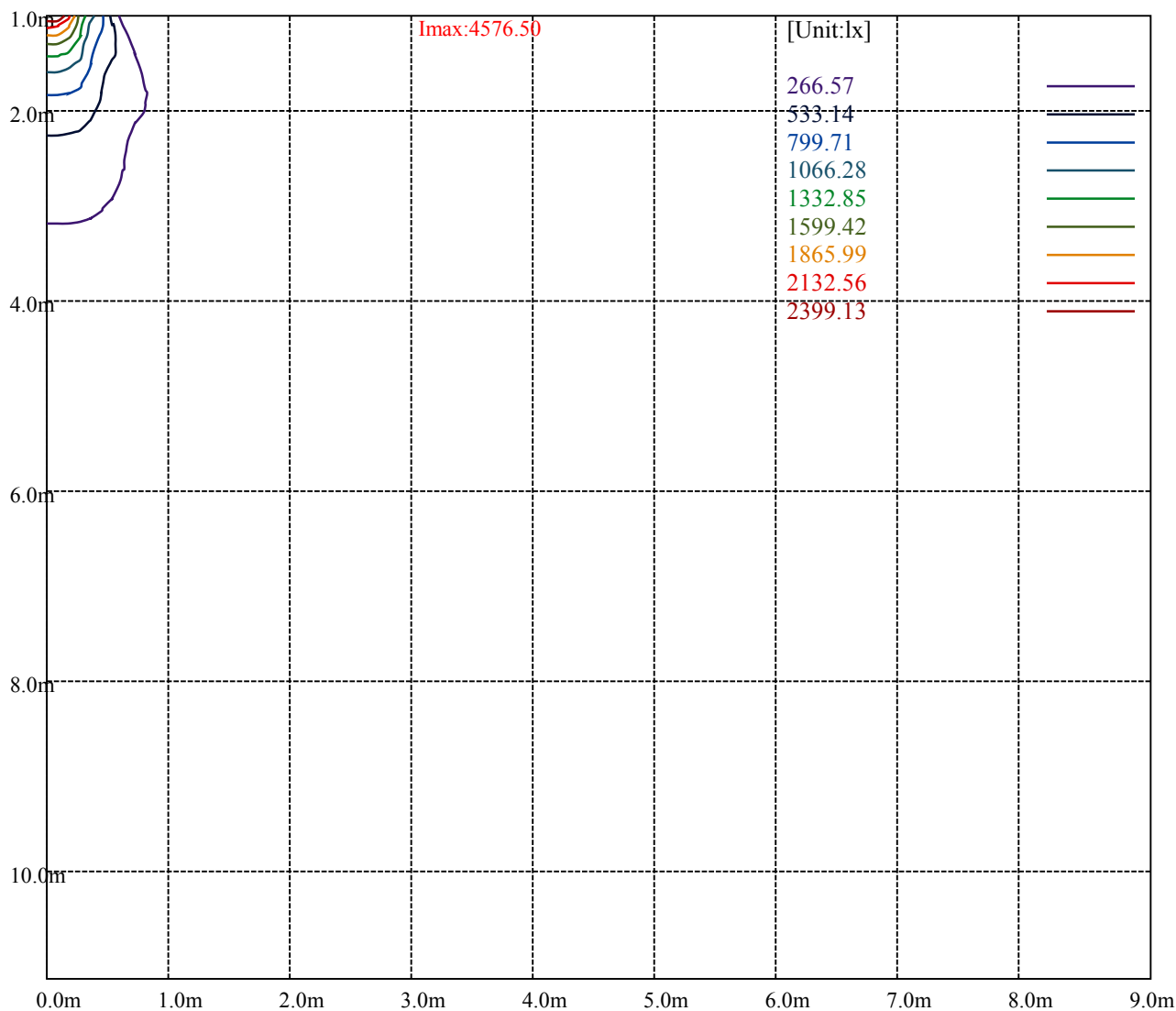
House

[Unit:cd]

Road

Imax:4576.50

(10%Imax)	457.65	—
(20%Imax)	915.3	—
(30%Imax)	1372.95	—
(40%Imax)	1830.6	—
(50%Imax)	2288.25	—
(60%Imax)	2745.9	—
(70%Imax)	3203.55	—
(80%Imax)	3661.2	—
(90%Imax)	4118.85	—



Luminance Table

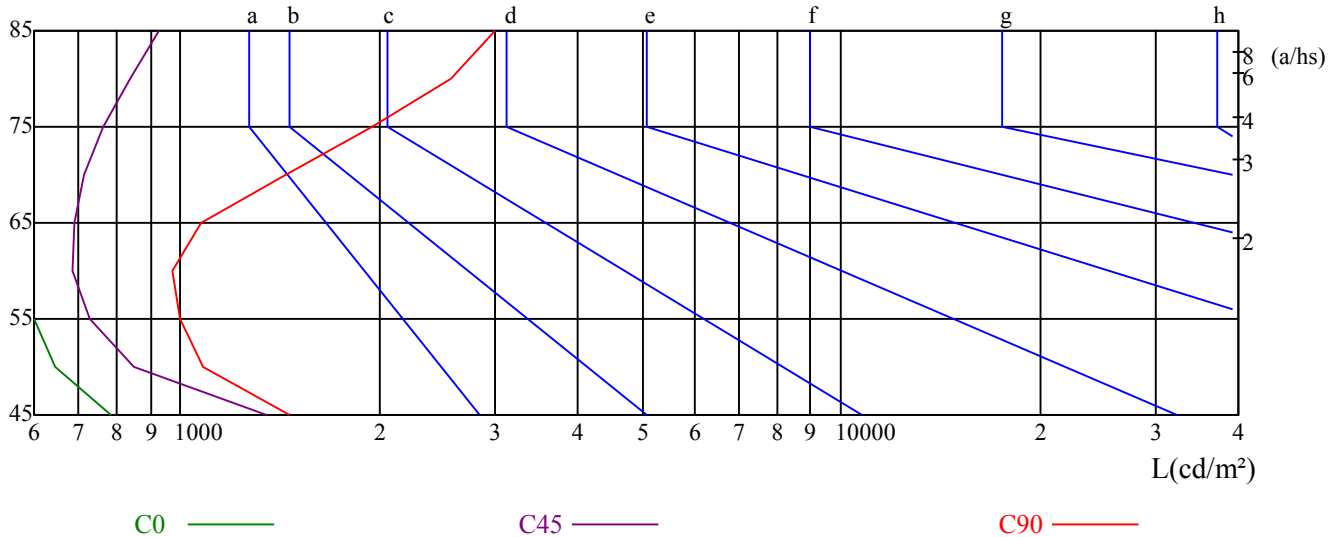
γ	45	50	55	60	65	70	75	80	85
C0	786	646	578	546	548	580	606	644	714
C45	1346	851	728	688	689	714	765	837	927
C90	1465	1083	997	970	1072	1445	1945	2565	3001

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
1107	1079	1137	1664	1868	1657	4272	4272	4373

Glare Table

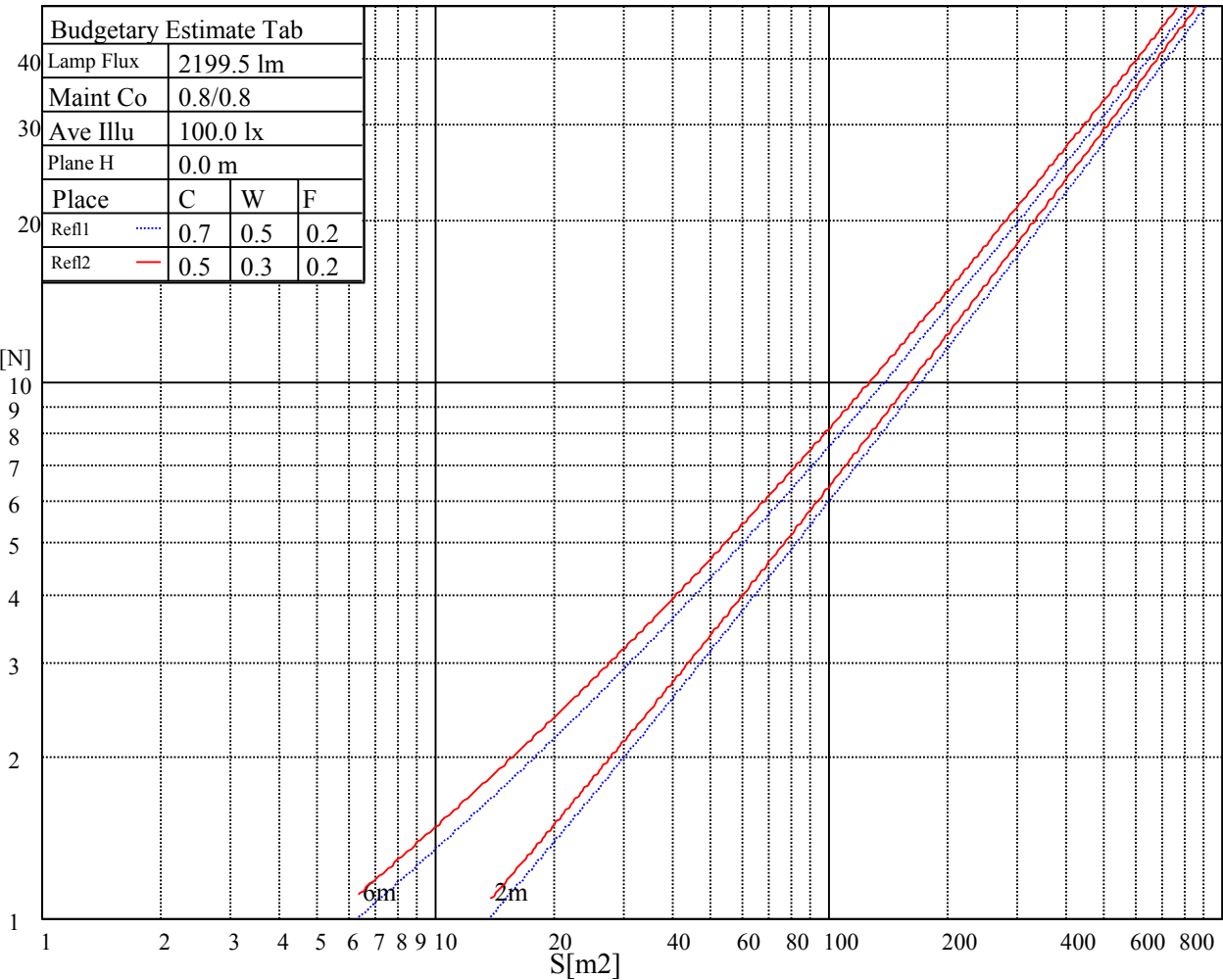
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve

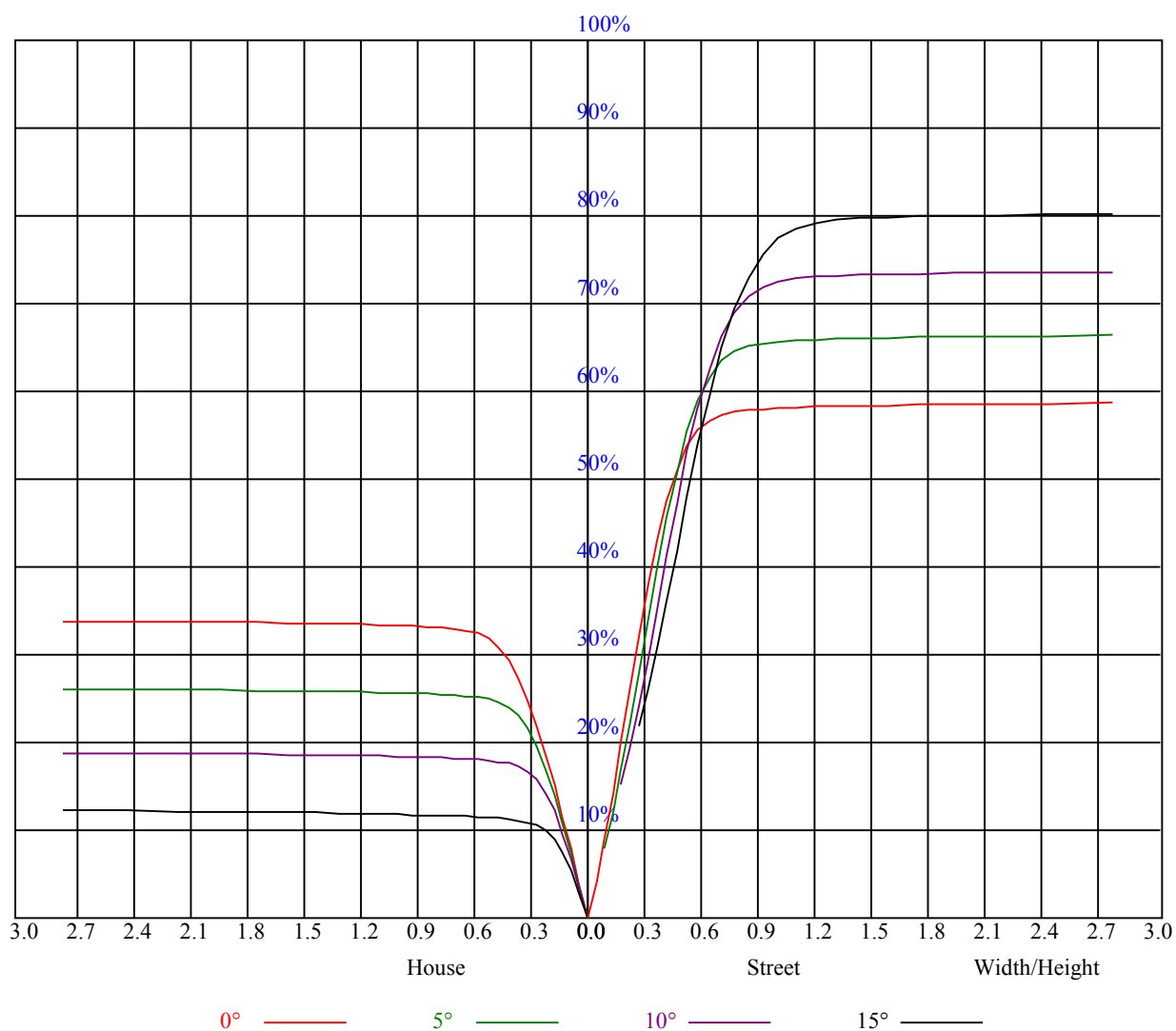
 $\gamma(^{\circ})$ 

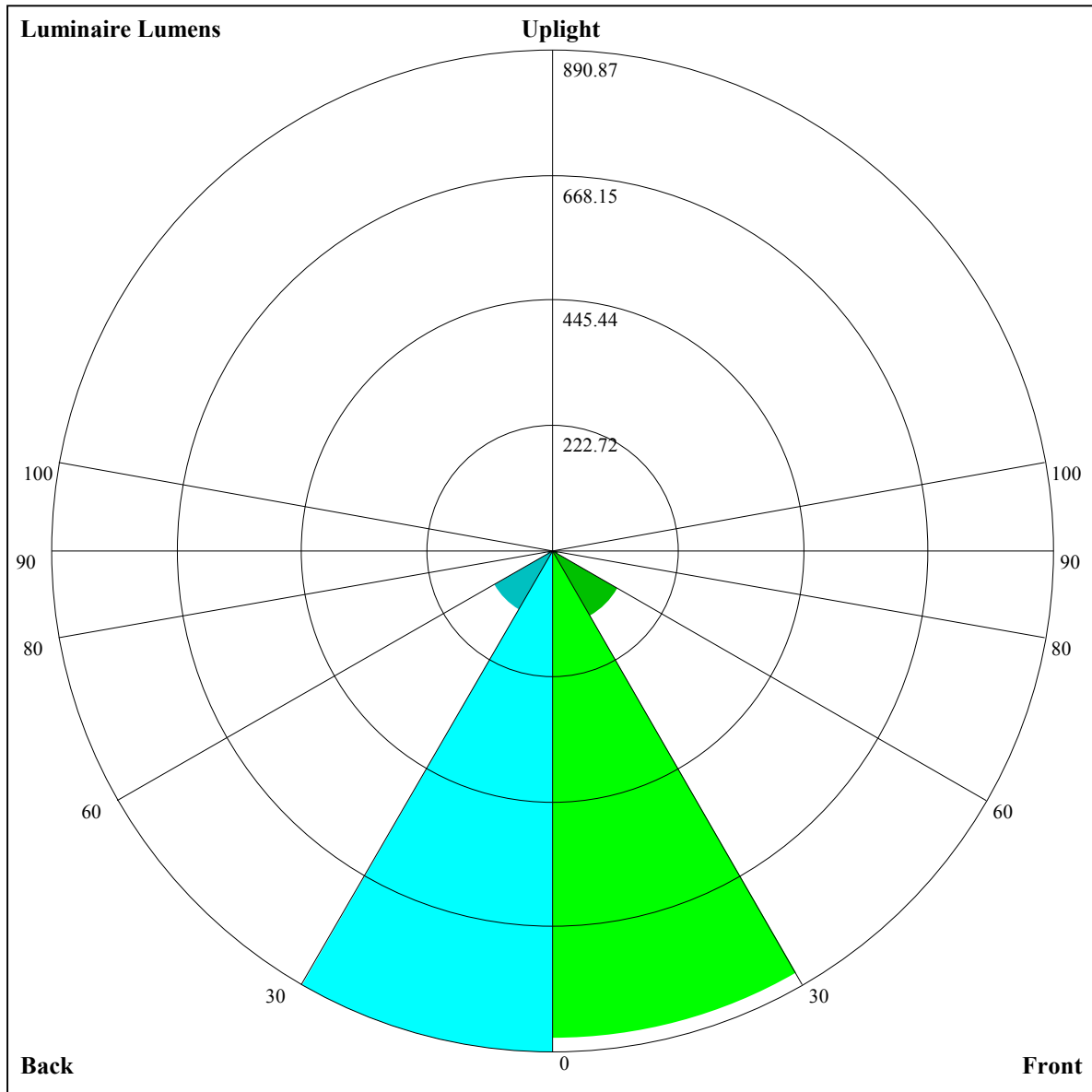
Illumination assessment according UGR											
Rf of Ceiling		70	70	50	50	30	70	70	50	50	30
Rf of Wall		50	30	50	30	30	50	30	50	30	30
Rf of Floor		20	20	20	20	20	20	20	20	20	20
Room dimensions		Viewed crosswise					Viewed endwise				
X	Y										
2H	2H	9.82	10.75	10.18	11.07	11.38	12.58	13.52	12.95	13.83	14.14
	3H	9.87	10.70	10.25	11.04	11.38	12.54	13.37	12.93	13.71	14.05
	4H	9.97	10.74	10.37	11.09	11.46	12.64	13.41	13.05	13.77	14.14
	6H	10.17	10.87	10.59	11.25	11.65	12.92	13.63	13.34	14.00	14.40
	8H	10.28	10.95	10.70	11.34	11.74	13.09	13.76	13.51	14.15	14.55
	12H	10.42	11.05	10.84	11.45	11.86	13.27	13.91	13.70	14.30	14.72
4H	2H	9.60	10.37	10.00	10.72	11.09	12.30	13.07	12.70	13.43	13.79
	3H	9.75	10.40	10.18	10.80	11.21	12.29	12.94	12.72	13.33	13.75
	4H	10.02	10.58	10.46	11.01	11.46	12.51	13.07	12.95	13.49	13.94
	6H	10.36	10.86	10.84	11.31	11.76	12.89	13.39	13.37	13.84	14.30
	8H	10.60	11.06	11.09	11.52	12.00	13.19	13.65	13.68	14.11	14.59
	12H	10.88	11.31	11.37	11.76	12.28	13.53	13.96	14.02	14.41	14.93
8H	4H	10.05	10.51	10.54	10.97	11.44	12.42	12.88	12.90	13.34	13.81
	6H	10.58	10.96	11.09	11.44	11.95	12.91	13.29	13.42	13.77	14.28
	8H	11.02	11.33	11.55	11.86	12.35	13.36	13.67	13.89	14.20	14.69
	12H	11.46	11.70	12.01	12.22	12.74	13.85	14.09	14.40	14.61	15.13
12H	4H	10.07	10.49	10.56	10.94	11.46	12.39	12.82	12.88	13.27	13.79
	6H	10.71	11.02	11.24	11.54	12.04	12.96	13.28	13.50	13.80	14.30
	8H	11.18	11.42	11.72	11.93	12.46	13.42	13.66	13.96	14.18	14.70
Variation with the observer position at spacings:											
S = 1.0H		4.9/-6.3					5.2/-5.0				
S = 1.5H		7.0/-4.7					7.1/-3.8				
S = 2.0H		8.5/-3.6					8.5/-3.1				
Standard tables:		BK2					BK3				
Uncorrected UGR		-4.9					-7.0				

UGR calculation is based on CIE Publ. 117 ,S/H = 0.25



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	1.11	1.11	1.11	1.08	1.08	1.08	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.93
1	1.03	1.01	0.99	1.01	0.99	0.98	0.98	0.96	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.88
2	0.97	0.93	0.90	0.95	0.92	0.89	0.92	0.90	0.87	0.90	0.88	0.86	0.87	0.85	0.84	0.82
3	0.91	0.87	0.83	0.90	0.86	0.83	0.88	0.84	0.82	0.85	0.83	0.80	0.83	0.81	0.79	0.78
4	0.86	0.81	0.78	0.85	0.81	0.77	0.83	0.79	0.76	0.81	0.78	0.75	0.80	0.77	0.75	0.73
5	0.81	0.76	0.73	0.81	0.76	0.72	0.79	0.75	0.72	0.77	0.74	0.71	0.76	0.73	0.71	0.69
6	0.77	0.72	0.68	0.76	0.72	0.68	0.75	0.71	0.68	0.74	0.70	0.67	0.73	0.69	0.67	0.66
7	0.73	0.68	0.65	0.73	0.68	0.64	0.71	0.67	0.64	0.70	0.67	0.64	0.69	0.66	0.63	0.62
8	0.70	0.65	0.61	0.69	0.64	0.61	0.68	0.64	0.61	0.67	0.63	0.60	0.66	0.63	0.60	0.59
9	0.66	0.61	0.58	0.66	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.57	0.64	0.60	0.57	0.56
10	0.63	0.58	0.55	0.63	0.58	0.55	0.62	0.58	0.55	0.61	0.58	0.55	0.61	0.57	0.55	0.53





Luminaire Lumens:

FL=867.53,FM=133.8,FH=12.33,FVH=5.62

BL=890.87,BM=122.52,BH=12.45,BVH=5.5

UL=0,UH=0

BUG Rating:B2-U0-G0

Intensity data(cd)										Appendix Page: 18 Total:21	
C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0		
0.0	2665.69	2669.63	2670.19	2691.56	2679.19	2675.81	2653.88	2652.75	2613.38		
22.5	2696.63	2727.56	2757.94	2777.63	2808.00	2823.19	2861.44	2863.69	2867.06		
45.0	2727.56	2808.00	2877.19	2948.63	3036.94	3134.81	3263.63	3362.63	3450.38		
67.5	2708.44	2772.00	2890.13	3015.56	3157.31	3322.13	3458.81	3645.00	3816.00		
90.0	2756.25	2853.56	2965.50	3144.38	3309.75	3496.50	3708.00	3908.81	4066.88		
112.5	2710.13	2781.00	2895.75	3008.81	3143.25	3321.56	3526.31	3708.00	3894.75		
135.0	2729.25	2776.50	2833.88	2942.44	3040.31	3166.31	3344.63	3474.56	3604.50		
157.5	2688.19	2700.56	2725.31	2754.56	2811.38	2850.75	2926.69	2967.19	3008.81		
180.0	2665.69	2648.25	2639.81	2653.88	2633.06	2653.31	2616.19	2615.06	2563.88		
202.5	2696.63	2684.81	2655.56	2620.13	2600.44	2591.44	2548.69	2549.25	2490.75		
225.0	2727.56	2686.50	2652.75	2603.25	2567.81	2521.13	2507.63	2456.44	2428.88		
247.5	2708.44	2657.81	2616.19	2565.56	2520.56	2480.63	2433.38	2392.88	2372.06		
270.0	2756.25	2691.00	2632.50	2585.25	2542.50	2504.81	2462.63	2427.19	2389.50		
292.5	2710.13	2651.63	2601.56	2563.31	2534.06	2507.06	2469.38	2438.44	2397.38		
315.0	2729.25	2670.75	2623.50	2595.38	2581.88	2543.06	2511.56	2476.69	2431.69		
337.5	2688.19	2656.13	2639.25	2638.69	2606.06	2585.25	2549.81	2539.13	2497.50		
360.0	2665.69	2669.63	2670.19	2691.56	2679.19	2675.81	2653.88	2652.75	2613.38		
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0		
0.0	2556.00	2519.44	2426.63	2363.63	2230.88	2135.81	2001.38	1855.69	1724.06		
22.5	2846.81	2784.94	2739.94	2640.94	2522.81	2361.94	2234.25	2085.75	1964.81		
45.0	3511.69	3588.75	3605.06	3614.06	3605.06	3538.69	3456.00	3325.50	3130.88		
67.5	3981.38	4088.81	4199.63	4291.31	4342.50	4337.44	4284.00	4178.81	4052.81		
90.0	4213.13	4367.25	4476.38	4538.81	4576.50	4560.75	4494.94	4349.25	4163.06		
112.5	4064.06	4193.44	4331.81	4433.06	4496.63	4530.94	4497.19	4420.13	4266.56		
135.0	3772.13	3866.06	3928.50	4015.69	4014.00	3996.56	3953.25	3854.25	3705.75		
157.5	3071.25	3092.06	3103.88	3045.38	2975.63	2872.69	2766.94	2649.94	2549.81		
180.0	2513.81	2412.56	2314.13	2178.00	2045.25	1929.94	1791.56	1697.63	1639.13		
202.5	2462.06	2388.38	2323.69	2236.50	2103.19	1995.75	1877.63	1763.44	1634.06		
225.0	2409.19	2347.88	2314.69	2268.00	2213.44	2142.56	2060.44	1969.31	1870.88		
247.5	2334.94	2279.81	2237.63	2212.31	2185.88	2134.69	2081.25	2049.19	1997.44		
270.0	2341.69	2301.75	2259.56	2218.50	2170.69	2126.81	2077.31	2021.63	1950.75		
292.5	2356.31	2312.44	2266.88	2226.94	2173.50	2119.50	2071.13	2028.38	1963.13		
315.0	2399.06	2376.56	2328.75	2278.69	2214.56	2166.19	2134.69	2072.81	1988.44		
337.5	2445.19	2380.50	2327.06	2242.13	2171.81	2067.75	1977.75	1866.94	1747.69		
360.0	2556.00	2519.44	2426.63	2363.63	2230.88	2135.81	2001.38	1855.69	1724.06		
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0		
0.0	1603.69	1521.00	1464.75	1456.88	1430.44	1418.63	1379.25	1336.50	1279.13		
22.5	1904.06	1885.50	1911.38	1920.38	1938.94	1936.69	1921.50	1866.38	1761.75		
45.0	3007.69	2881.69	2777.63	2687.06	2653.31	2644.31	2625.19	2622.94	2566.69		
67.5	3888.00	3722.63	3494.81	3327.19	3139.88	2873.25	2658.38	2464.31	2237.06		
90.0	3950.44	3691.69	3458.25	3192.75	2917.69	2663.44	2404.69	2147.06	1920.38		
112.5	4061.81	3868.31	3603.38	3368.25	3126.38	2886.19	2571.19	2340.56	2108.25		
135.0	3573.56	3398.63	3232.69	3035.81	2875.50	2736.00	2563.88	2445.75	2284.31		
157.5	2465.44	2435.63	2448.00	2482.88	2502.56	2536.88	2528.44	2468.81	2345.06		
180.0	1610.44	1589.63	1579.50	1551.94	1510.88	1429.31	1310.06	1108.52	1055.36		
202.5	1533.38	1478.25	1444.50	1420.31	1393.88	1369.13	1328.63	1260.56	1115.21		
225.0	1757.25	1671.19	1566.00	1467.00	1370.81	1324.69	1265.06	1233.56	1195.88		
247.5	1913.06	1834.88	1735.88	1591.31	1463.06	1312.31	1104.19	981.23	838.52		
270.0	1873.13	1764.56	1629.00	1489.50	1319.63	1160.44	980.44	798.19	641.25		
292.5	1884.94	1784.25	1647.00	1494.00	1351.13	1109.76	1014.69	862.03	691.99		
315.0	1932.75	1865.25	1762.88	1676.25	1577.25	1448.44	1307.25	1190.25	1050.19		
337.5	1644.19	1521.56	1436.63	1361.81	1317.94	1297.13	1266.75	1236.38	1204.31		
360.0	1603.69	1521.00	1464.75	1456.88	1430.44	1418.63	1379.25	1336.50	1279.13		

Intensity data(cd)

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	1191.94	1055.81	930.94	799.88	630.00	513.00	410.63	322.88	290.25
22.5	1652.06	1415.25	1221.19	1040.06	789.75	616.50	474.75	311.06	230.96
45.0	2530.69	2381.63	2197.69	1963.69	1724.63	1405.13	1119.71	960.41	719.04
67.5	2003.63	1815.75	1600.88	1403.44	1209.94	984.94	856.13	709.88	582.75
90.0	1685.25	1387.13	1097.04	927.84	707.91	522.34	399.88	282.38	208.86
112.5	1879.88	1644.19	1414.69	1158.19	931.50	726.75	564.19	439.88	317.25
135.0	2120.06	1938.94	1783.13	1616.63	1477.69	1310.63	1103.74	955.91	768.88
157.5	2190.94	1974.38	1756.13	1485.00	1175.06	907.88	694.13	430.31	293.63
180.0	873.39	713.59	560.25	400.44	276.81	178.71	115.93	76.78	52.82
202.5	1078.93	949.89	835.43	711.22	573.69	436.89	324.90	222.98	145.24
225.0	1152.00	1099.13	1063.69	982.69	885.94	802.13	685.13	585.00	494.44
247.5	689.40	570.71	453.66	354.71	282.54	214.59	158.12	118.86	96.47
270.0	519.19	348.19	290.25	201.43	145.29	116.89	98.38	94.11	89.94
292.5	546.64	395.44	277.03	205.43	157.39	115.82	95.68	85.84	81.28
315.0	933.75	817.88	716.63	638.44	553.50	471.38	401.06	339.19	289.13
337.5	1173.38	1115.16	1052.61	974.64	864.39	769.61	659.48	520.31	432.84
360.0	1191.94	1055.81	930.94	799.88	630.00	513.00	410.63	322.88	290.25
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	151.88	105.02	57.99	40.95	37.07	32.29	27.96	24.41	21.60
22.5	124.03	77.12	56.25	46.80	39.32	34.71	29.64	26.66	25.43
45.0	559.91	425.64	309.66	224.38	166.16	111.66	72.00	45.17	35.61
67.5	472.50	381.94	285.19	191.93	143.78	107.49	85.78	76.28	59.46
90.0	155.59	121.28	103.61	80.27	65.81	57.04	51.13	38.53	31.05
112.5	294.19	155.19	123.24	97.09	81.51	67.84	57.09	49.84	45.45
135.0	601.26	466.71	352.80	232.37	155.08	101.53	62.10	46.41	38.42
157.5	163.41	101.87	70.03	55.29	43.37	34.43	29.59	25.93	23.96
180.0	42.36	36.68	32.34	27.90	24.98	23.91	22.73	21.66	21.09
202.5	96.08	59.12	43.14	36.00	30.38	26.89	23.85	20.93	20.25
225.0	376.88	294.75	242.94	140.23	96.36	62.72	36.96	28.18	24.24
247.5	83.87	81.00	77.18	67.22	53.94	39.66	30.04	24.81	21.83
270.0	81.11	66.54	55.97	49.05	40.28	33.02	28.69	24.02	20.42
292.5	75.04	64.80	53.38	47.70	42.92	37.69	34.76	31.73	26.89
315.0	183.66	129.15	81.62	53.33	41.74	35.44	30.38	25.76	20.59
337.5	336.15	244.80	191.59	130.67	78.02	52.43	37.24	31.61	29.36
360.0	151.88	105.02	57.99	40.95	37.07	32.29	27.96	24.41	21.60
C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	20.59	19.63	18.73	17.83	16.99	16.26	15.81	15.24	14.63
22.5	24.19	22.95	21.99	20.98	20.08	19.29	18.68	17.89	17.21
45.0	32.68	28.58	24.69	22.28	21.04	19.74	18.84	18.00	17.16
67.5	51.92	44.83	37.18	32.29	28.01	25.09	21.66	19.58	17.66
90.0	27.51	24.92	23.01	21.26	19.69	18.56	17.72	16.93	16.26
112.5	30.09	25.14	23.51	21.94	20.31	18.84	17.72	17.04	16.26
135.0	32.23	29.03	26.27	24.24	23.18	20.93	18.06	17.27	16.09
157.5	22.56	21.32	20.42	19.69	18.84	18.23	17.49	16.76	16.14
180.0	20.48	19.63	19.18	18.51	17.83	17.04	16.54	16.20	15.98
202.5	19.41	18.56	18.17	17.72	17.38	16.88	16.43	15.75	15.41
225.0	21.04	18.79	17.44	16.43	16.26	15.58	15.58	15.02	15.02
247.5	19.01	17.38	16.03	15.36	15.02	14.63	14.23	14.01	13.73
270.0	18.17	16.71	15.81	15.19	14.63	14.18	13.89	13.56	13.22
292.5	23.01	18.34	15.53	14.40	13.78	13.39	13.11	12.94	12.71
315.0	17.61	16.59	16.03	15.69	15.24	14.79	14.23	13.73	12.94
337.5	27.06	24.08	22.39	21.66	21.21	20.70	20.31	19.91	19.58
360.0	20.59	19.63	18.73	17.83	16.99	16.26	15.81	15.24	14.63

Intensity data(cd)

Appendix Page: 20 Total:21

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	14.23	13.89	13.44	13.11	12.83	12.60	12.43	12.21	12.04
22.5	16.65	16.14	15.81	15.41	15.08	14.79	14.51	14.29	14.01
45.0	16.43	15.92	15.30	15.02	14.63	14.23	14.01	13.73	13.56
67.5	16.71	15.98	15.13	14.63	14.23	13.89	13.50	13.22	12.94
90.0	15.69	15.41	14.96	14.29	13.89	13.61	13.16	12.83	12.66
112.5	15.75	15.41	15.30	14.96	14.40	14.01	13.61	13.39	13.22
135.0	15.81	16.09	15.19	14.34	13.61	13.28	12.99	12.77	12.60
157.5	15.64	15.19	14.74	14.46	14.06	13.78	13.39	12.99	12.71
180.0	15.53	15.36	14.85	14.40	14.06	13.89	13.78	13.39	13.05
202.5	15.08	14.74	14.51	14.12	13.89	13.67	13.50	13.33	13.28
225.0	14.46	14.18	13.84	13.56	13.44	13.28	13.11	13.16	12.99
247.5	13.44	13.28	13.05	12.83	12.60	12.49	12.32	12.15	12.04
270.0	12.94	12.66	12.43	12.21	11.98	11.81	11.59	11.48	11.31
292.5	12.49	12.26	12.04	11.81	11.70	11.53	11.42	11.25	11.03
315.0	12.54	12.26	12.04	11.87	11.93	11.53	11.36	11.19	11.36
337.5	19.13	18.62	18.34	18.00	17.61	17.38	17.04	16.76	16.43
360.0	14.23	13.89	13.44	13.11	12.83	12.60	12.43	12.21	12.04
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	11.81	11.70	11.64	11.59	11.48	11.36	11.25	11.31	11.31
22.5	13.89	13.73	13.61	13.50	13.39	13.22	13.05	12.99	12.77
45.0	13.44	13.22	12.94	12.83	12.60	12.43	12.26	12.15	11.98
67.5	12.77	12.60	12.43	12.26	12.09	11.93	11.87	11.76	11.59
90.0	12.60	12.54	12.49	12.49	12.66	12.88	13.33	13.95	14.74
112.5	13.22	13.33	13.56	13.89	14.18	13.95	13.78	13.73	13.73
135.0	12.43	12.26	12.15	11.98	11.81	11.70	11.48	11.36	11.31
157.5	12.49	12.26	12.04	11.87	11.70	11.64	11.53	11.42	11.36
180.0	12.71	12.43	12.38	12.32	11.98	11.81	11.76	11.64	11.70
202.5	13.16	12.94	12.83	12.71	12.66	12.66	12.54	12.43	12.43
225.0	12.99	12.77	12.71	12.77	12.66	12.60	12.43	12.43	12.26
247.5	11.87	11.76	11.76	11.64	11.48	11.31	11.08	11.03	10.97
270.0	11.14	10.97	10.86	10.69	10.58	10.52	10.46	10.41	10.35
292.5	10.91	10.80	10.69	10.58	10.52	10.52	10.52	10.46	10.41
315.0	11.70	11.59	11.64	11.31	11.31	11.48	11.31	11.31	10.91
337.5	16.20	15.92	15.64	15.41	15.13	14.85	14.63	14.46	14.34
360.0	11.81	11.70	11.64	11.59	11.48	11.36	11.25	11.31	11.31
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	11.25	11.03	10.86	10.69	10.41	10.18	10.24	10.29	10.13
22.5	12.60	12.32	12.21	11.98	11.98	11.87	11.81	11.76	11.70
45.0	11.81	11.70	11.59	11.48	11.36	11.25	11.14	11.03	10.86
67.5	11.48	11.36	11.19	11.08	11.03	10.91	10.80	10.69	10.58
90.0	15.13	15.24	14.96	14.57	14.40	14.46	14.29	13.73	13.67
112.5	13.95	14.63	14.91	14.96	14.57	14.12	13.73	13.33	13.33
135.0	11.19	11.14	11.08	11.03	10.86	10.80	10.74	10.69	10.69
157.5	11.31	11.19	11.03	10.97	10.91	10.91	10.91	10.86	10.86
180.0	11.76	11.70	11.59	11.42	11.25	11.25	11.36	11.76	11.81
202.5	12.43	12.38	12.38	12.32	12.15	12.09	11.87	11.76	11.81
225.0	12.32	11.98	11.76	11.70	11.64	11.53	11.42	11.19	10.97
247.5	10.91	10.86	10.86	10.80	10.97	10.74	10.63	10.58	10.46
270.0	10.29	10.24	10.24	10.18	10.18	10.13	10.13	10.07	10.01
292.5	10.29	10.29	10.29	10.24	10.29	10.29	10.35	10.41	10.41
315.0	10.63	10.35	9.96	9.84	9.84	9.84	9.79	9.79	9.62
337.5	14.06	13.89	13.78	13.67	13.56	13.44	13.33	13.22	13.11
360.0	11.25	11.03	10.86	10.69	10.41	10.18	10.24	10.29	10.13

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Intensity data(cd)									Appendix Page: 21 Total:21	
C/ γ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0	
0.0	10.07	10.07	9.96	9.84	9.73	9.45	9.17	8.94	8.72	
22.5	11.48	11.31	11.08	10.80	10.52	10.24	10.01	9.73	9.62	
45.0	10.80	10.69	10.58	10.41	10.13	9.96	9.73	9.62	9.56	
67.5	10.46	10.35	10.29	10.24	9.79	9.68	9.51	9.39	9.28	
90.0	13.56	11.64	10.46	10.41	9.39	9.23	9.06	8.94	8.94	
112.5	13.39	13.05	11.93	11.81	10.07	9.11	9.00	8.83	8.78	
135.0	10.80	10.91	11.14	10.97	9.22	9.00	8.89	8.78	8.78	
157.5	10.69	10.52	10.46	10.35	10.29	8.94	8.78	8.61	8.55	
180.0	11.53	10.58	10.35	10.24	9.39	8.89	8.55	8.38	8.38	
202.5	12.04	12.09	11.64	11.19	11.03	10.91	10.07	9.96	9.79	
225.0	10.80	10.74	10.63	10.52	10.46	10.52	10.07	9.90	9.84	
247.5	10.35	10.24	10.18	10.13	10.07	10.07	9.68	9.56	9.45	
270.0	10.01	9.96	9.84	9.79	9.68	9.51	9.34	9.23	9.11	
292.5	10.46	10.46	10.52	10.58	10.46	10.52	10.52	10.41	10.35	
315.0	9.56	9.45	9.39	9.34	9.28	9.23	9.17	9.11	9.00	
337.5	12.94	12.83	12.71	12.60	12.32	12.77	14.34	15.86	15.81	
360.0	10.07	10.07	9.96	9.84	9.73	9.45	9.17	8.94	8.72	
C/ γ (°)	90.0									
0.0	8.49									
22.5	9.62									
45.0	9.62									
67.5	9.28									
90.0	8.94									
112.5	8.83									
135.0	8.72									
157.5	8.61									
180.0	8.38									
202.5	9.62									
225.0	9.73									
247.5	9.34									
270.0	9.06									
292.5	9.51									
315.0	8.89									
337.5	11.93									
360.0	8.49									