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## Nata

Client:

LumCAT: 2-2520-L

Luminaire: 92.70.412.00

Report No: 2024814-B012

Ballast type: AC

Test No: 2024812-C012

Voltage(V): 36.610

LampCAT: P2141-036-1206-P3090-1

Current(A): 0.695

Lamp flux(lm): 3141.0

Power (W): 25.440

Number of Lamps: 1

PF: 0.000

Length(mm): 0

Width(mm): 0

Phm Type: C

Height(mm): 0

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## Photometric Results

Lumens(lm): 2827.45, Efficiency(%): 90.02% , Luminous Efficacy(lm/W): 111.14

Central intensity(cd): 6063.347, Maximum intensity(cd): 6063.347

Angle of maximum intensity: C=0.0  $\gamma$ =0.0

Beam Angle(50%Imax): [C0/180]Total=39.8

[C90/270]Total=39.8

Field angle(10%Imax): [C0/180]Total=63.8

[C90/270]Total=63.8

Maximum s/h(1/2): C0\_180=0.66 C90\_270=0.66

Maximum s/h(1/4): C0\_180=0.62 C90\_270=0.62

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 90.02%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in  $\pi$  solid angle : 99.235%

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Equipment: GMS 1800  
Temperature(°C): 25.0

Date: 2024/8/12  
Humidity(%): 60.0%

Operator: NT  
Distance(m): 7.25

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6063.347	0.000	0	0.00%	0.00%
1.0	6061.251	5.801	5.801	0.18%	0.21%
2.0	6040.351	17.369	23.171	0.55%	0.82%
3.0	6004.070	28.806	51.977	0.92%	1.84%
4.0	5960.397	40.049	92.026	1.28%	3.25%
5.0	5909.904	51.065	143.091	1.63%	5.06%
6.0	5840.469	61.751	204.843	1.97%	7.24%
7.0	5754.943	71.973	276.815	2.29%	9.79%
8.0	5668.314	81.754	358.569	2.60%	12.68%
9.0	5553.609	90.948	449.517	2.90%	15.90%
10.0	5428.734	99.386	548.903	3.16%	19.41%
11.0	5292.288	107.125	656.028	3.41%	23.20%
12.0	5126.059	113.887	769.916	3.63%	27.23%
13.0	4935.836	119.409	889.325	3.80%	31.45%
14.0	4739.935	123.849	1013.174	3.94%	35.83%
15.0	4504.258	126.908	1140.082	4.04%	40.32%
16.0	4236.892	128.082	1268.165	4.08%	44.85%
17.0	3942.424	127.374	1395.539	4.06%	49.36%
18.0	3671.431	125.536	1521.074	4.00%	53.80%
19.0	3321.963	121.671	1642.745	3.87%	58.10%
20.0	3000.405	115.717	1758.462	3.68%	62.19%
21.0	2707.481	109.603	1868.065	3.49%	66.07%
22.0	2410.089	102.840	1970.905	3.27%	69.71%
23.0	2155.325	95.795	2066.7	3.05%	73.09%
24.0	1887.618	88.393	2155.093	2.81%	76.22%
25.0	1666.304	80.808	2235.901	2.57%	79.08%
26.0	1466.257	73.944	2309.846	2.35%	81.69%
27.0	1264.798	66.816	2376.662	2.13%	84.06%
28.0	1110.173	60.129	2436.791	1.91%	86.18%
29.0	989.062	54.922	2491.713	1.75%	88.13%
30.0	850.001	49.654	2541.367	1.58%	89.88%
31.0	720.264	43.698	2585.065	1.39%	91.43%
32.0	589.462	37.522	2622.587	1.19%	92.75%
33.0	468.903	31.180	2653.767	0.99%	93.86%
34.0	364.350	25.217	2678.984	0.80%	94.75%
35.0	289.646	20.311	2699.295	0.65%	95.47%
36.0	200.605	15.610	2714.904	0.50%	96.02%
37.0	160.841	11.788	2726.693	0.38%	96.44%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	130.013	9.708	2736.401	0.31%	96.78%
39.0	94.409	7.660	2744.061	0.24%	97.05%
40.0	82.576	6.173	2750.234	0.20%	97.27%
41.0	70.375	5.446	2755.68	0.17%	97.46%
42.0	62.096	4.813	2760.493	0.15%	97.63%
43.0	55.394	4.352	2764.845	0.14%	97.79%
44.0	49.402	3.955	2768.801	0.13%	97.93%
45.0	44.461	3.607	2772.408	0.11%	98.05%
46.0	39.961	3.302	2775.709	0.11%	98.17%
47.0	36.603	3.045	2778.755	0.10%	98.28%
48.0	33.548	2.836	2781.59	0.09%	98.38%
49.0	30.926	2.648	2784.238	0.08%	98.47%
50.0	28.778	2.489	2786.727	0.08%	98.56%
51.0	26.675	2.346	2789.074	0.07%	98.64%
52.0	25.020	2.218	2791.292	0.07%	98.72%
53.0	23.522	2.112	2793.403	0.07%	98.80%
54.0	22.135	2.012	2795.416	0.06%	98.87%
55.0	20.821	1.918	2797.333	0.06%	98.93%
56.0	19.672	1.830	2799.163	0.06%	99.00%
57.0	18.778	1.758	2800.921	0.06%	99.06%
58.0	17.806	1.692	2802.613	0.05%	99.12%
59.0	17.063	1.630	2804.243	0.05%	99.18%
60.0	16.196	1.571	2805.814	0.05%	99.23%
61.0	15.467	1.511	2807.325	0.05%	99.29%
62.0	14.796	1.458	2808.783	0.05%	99.34%
63.0	14.093	1.405	2810.188	0.04%	99.39%
64.0	13.476	1.353	2811.541	0.04%	99.44%
65.0	12.720	1.296	2812.838	0.04%	99.48%
66.0	11.978	1.232	2814.07	0.04%	99.53%
67.0	11.216	1.166	2815.236	0.04%	99.57%
68.0	10.368	1.093	2816.329	0.03%	99.61%
69.0	9.619	1.020	2817.349	0.03%	99.64%
70.0	8.863	0.949	2818.298	0.03%	99.68%
71.0	8.167	0.880	2819.179	0.03%	99.71%
72.0	7.497	0.814	2819.993	0.03%	99.74%
73.0	6.925	0.754	2820.747	0.02%	99.76%
74.0	6.452	0.703	2821.45	0.02%	99.79%
75.0	6.025	0.659	2822.11	0.02%	99.81%

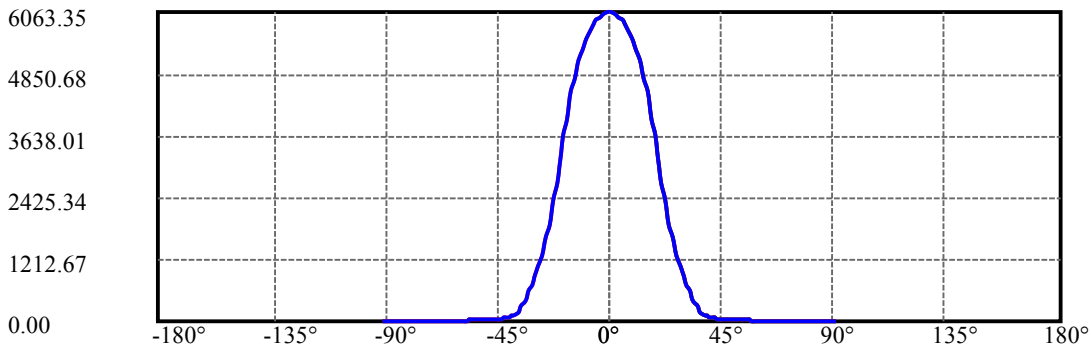
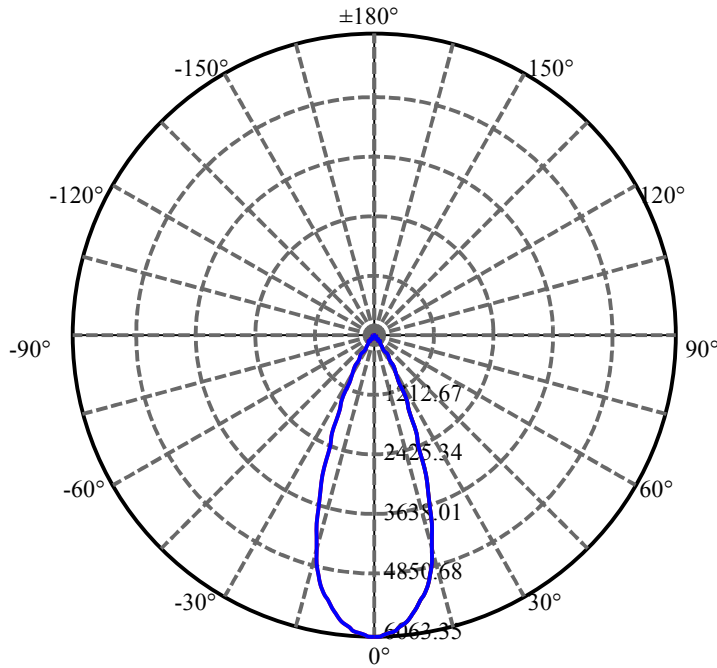
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	5.618	0.618	2822.728	0.02%	99.83%
77.0	5.230	0.578	2823.306	0.02%	99.85%
78.0	4.849	0.540	2823.846	0.02%	99.87%
79.0	4.396	0.497	2824.342	0.02%	99.89%
80.0	4.047	0.455	2824.797	0.01%	99.91%
81.0	3.627	0.415	2825.212	0.01%	99.92%
82.0	3.292	0.375	2825.588	0.01%	99.93%
83.0	2.937	0.339	2825.926	0.01%	99.95%
84.0	2.641	0.304	2826.23	0.01%	99.96%
85.0	2.339	0.272	2826.502	0.01%	99.97%
86.0	2.043	0.240	2826.741	0.01%	99.97%
87.0	1.807	0.211	2826.952	0.01%	99.98%
88.0	1.577	0.185	2827.138	0.01%	99.99%
89.0	1.426	0.165	2827.302	0.01%	99.99%
90.0	1.327	0.151	2827.453	0.00%	100.00%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2541.37	80.91%	89.88%
0-40	2750.23	87.56%	97.27%
0-60	2805.81	89.33%	99.23%
0-90	2827.30	90.01%	99.99%
0-120	2827.30	90.01%	99.99%
0-180	2827.45	90.02%	100.00%
60-90	21.49	0.68%	0.76%
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%
0-25.35	2261.96	72.01%	80.00%

ZONAL LUMEN SUMMARY

0-10	548.90
10-20	1209.56
20-30	782.90
30-40	208.87
40-50	36.49
50-60	19.09
60-70	12.48
70-80	6.50
80-90	2.50
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: ———

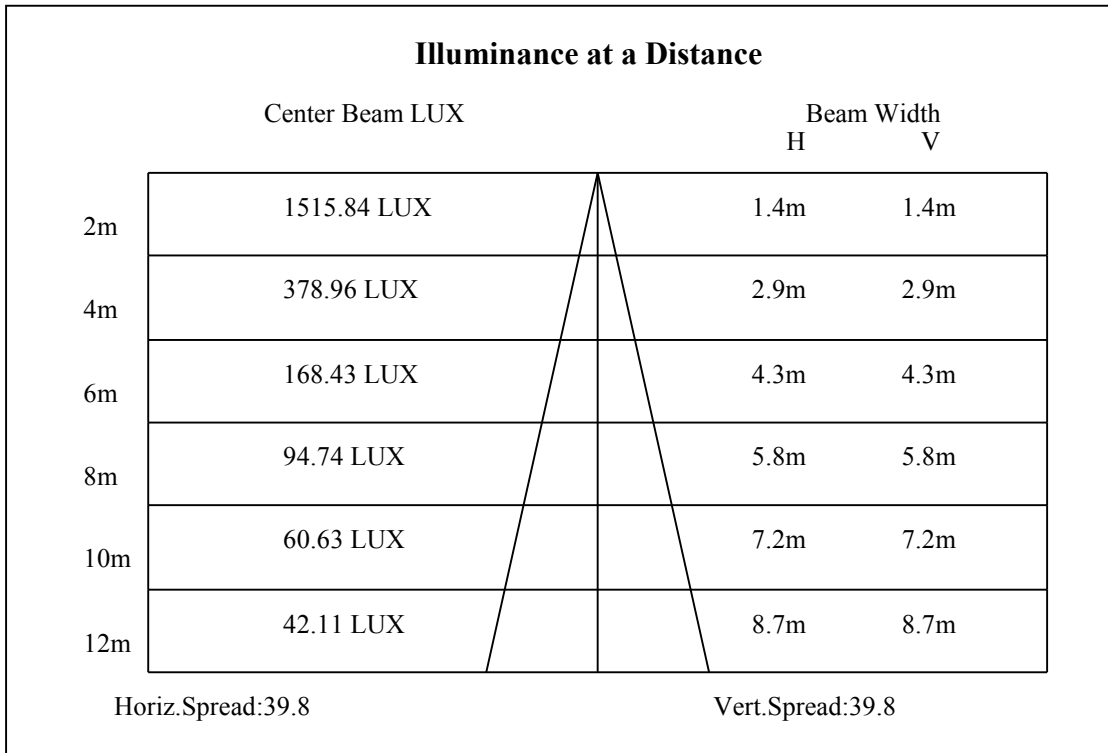
C90/C270: ———

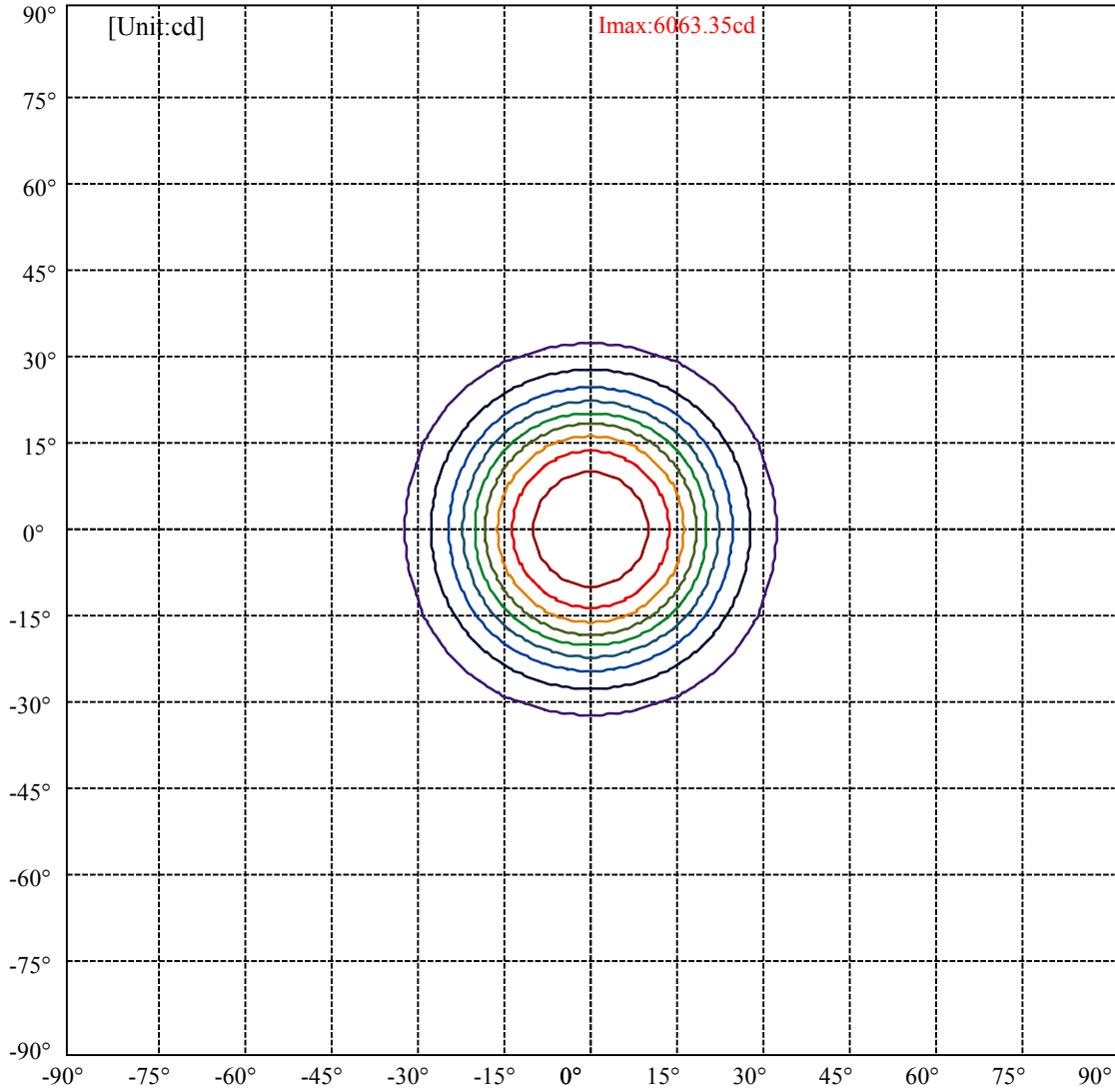
Field angle(10%Imax):C0/180Left:31.9 Right:31.9

:C90/270Left:31.9 Right:31.9

Beam Angle(50%Imax):C0/180Left:19.9 Right:19.9

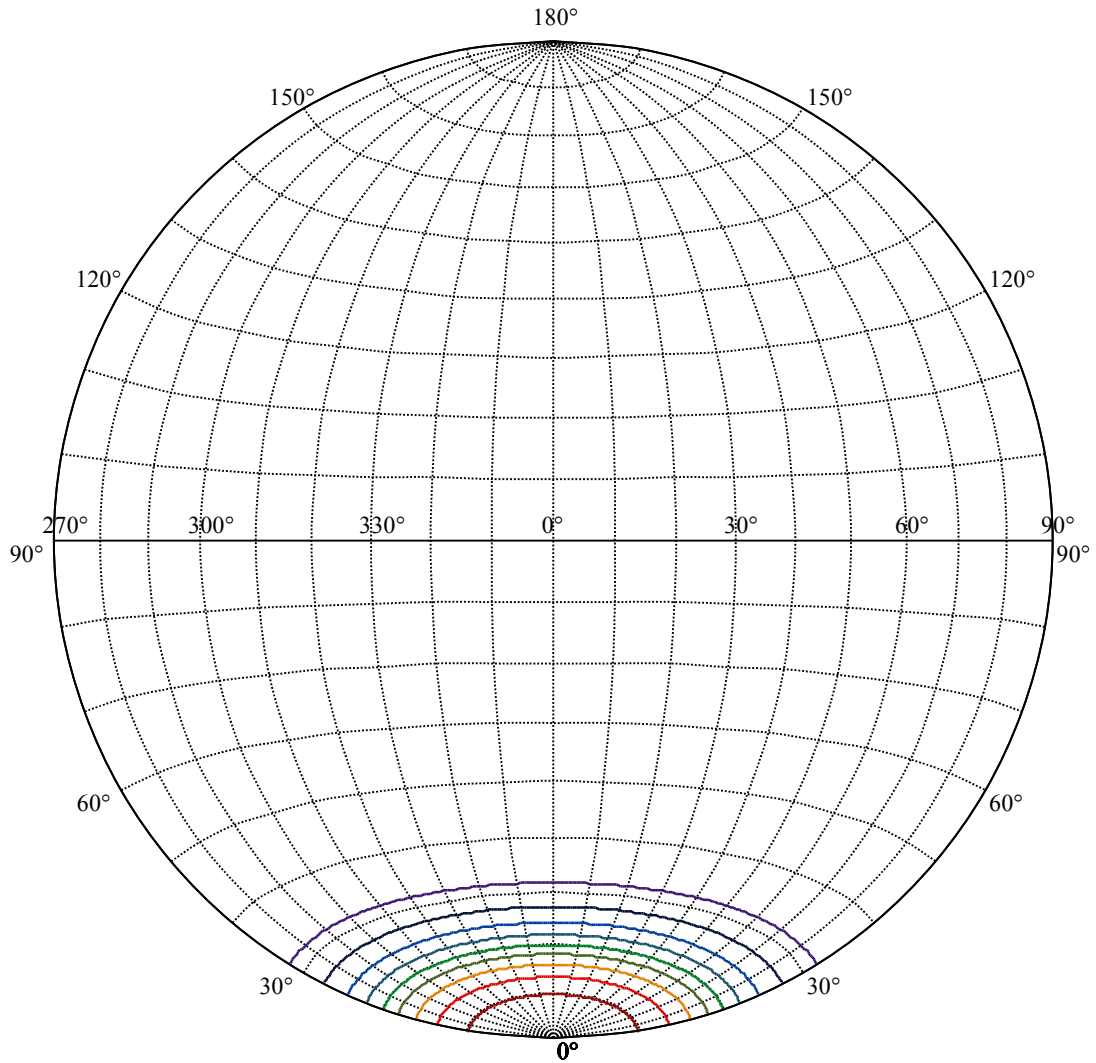
:C90/270Left:19.9 Right:19.9





(10%Imax) 606.335	—
(20%Imax) 1212.67	—
(30%Imax) 1819	—
(40%Imax) 2425.34	—
(50%Imax) 3031.67	—
(60%Imax) 3638.01	—
(70%Imax) 4244.34	—
(80%Imax) 4850.68	—
(90%Imax) 5457.01	—





House

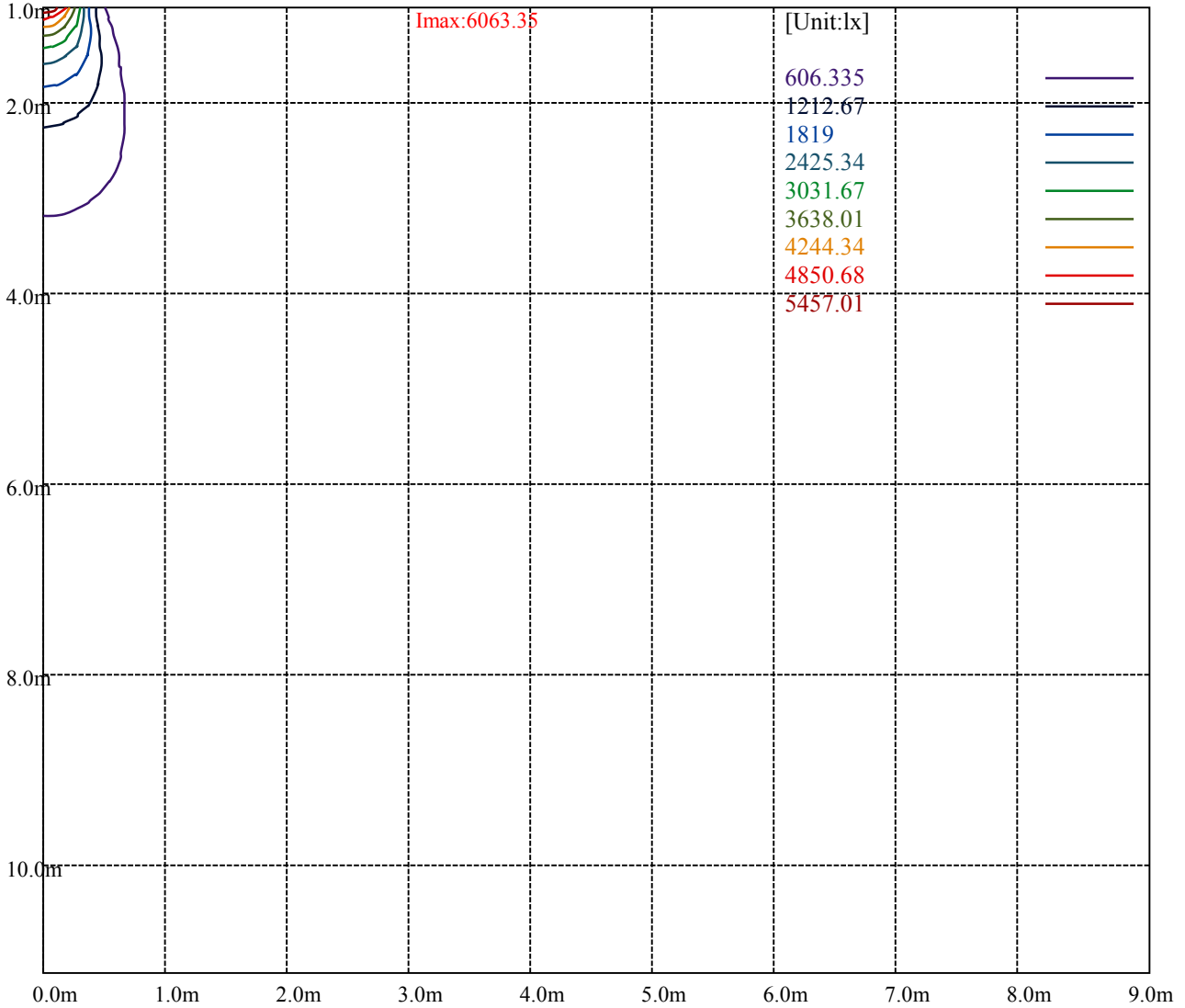
[Unit:cd]

Road

**Imax:6063.35**

(10%Imax)	606.335	—
(20%Imax)	1212.67	—
(30%Imax)	1819	—
(40%Imax)	2425.34	—
(50%Imax)	3031.67	—
(60%Imax)	3638.01	—
(70%Imax)	4244.34	—
(80%Imax)	4850.68	—
(90%Imax)	5457.01	—





Luminance Table

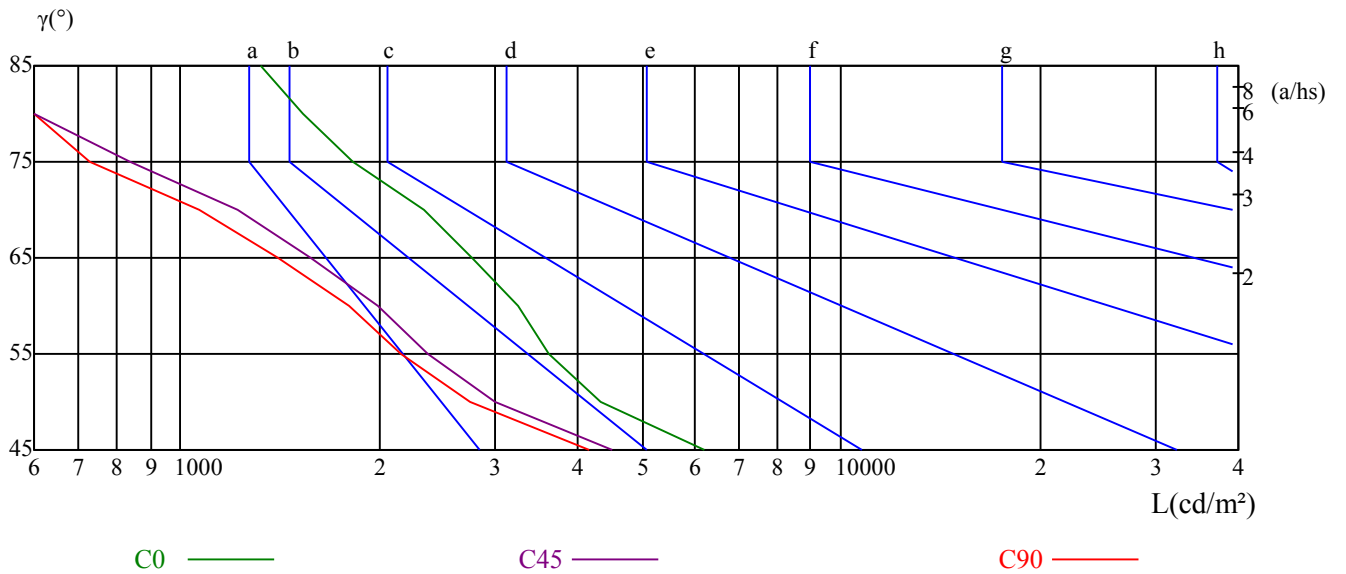
$\gamma$	45	50	55	60	65	70	75	80	85
C0	6222	4340	3614	3235	2761	2333	1821	1532	1326
C45	4503	2998	2367	1993	1579	1217	841	597	396
C90	4171	2752	2153	1794	1406	1069	728	508	329

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3290	3290	3290	2428	2428	2428	2679	2679	2679

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



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										
	3H										
	4H										
	6H										
	8H										
	12H										
4H	2H										
	3H										
	4H										
	6H										
	8H										
	12H										
8H	4H										
	6H										
	8H										
	12H										
12H	4H										
	6H										
	8H										
Variation with the observer position at spacings:											
S = 1.0H											
S = 1.5H											
S = 2.0H											
Standard tables:											
Uncorrected UGR											