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Nata

LumCAT: 3-1920-E
Luminaire: 99.02.73.180+92.76.323.00
Report No: GC2016120903
Test No: NT-0010
LampCAT: CREE CXA1830
Lamp flux(lm): 2002.0
Number of Lamps: 1
Length(mm): 76
Phm Type: C

Voltage(V): 217.5000
Current(A): 0.1000
Power (W): 19.5000
PF: 0.8960
Ballast type: DC
Width(mm): 76
Height(mm): 0

Photometric Results

Lumens(lm): 1819.09
Efficiency(%): 90.86%
Lumens(lm)/Power(W): 93.29
Central intensity(cd): 2376.647
Maximum intensity(cd): 2376.647
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=57.4
 [C90/270]Total=57.4
Field angle(10%Imax): [C0/180]Total=76.3
 [C90/270]Total=76.3
Maximum s/h(1/2): C0_180=0.88 C90_270=0.88
Maximum s/h(1/4): C0_180=0.86 C90_270=0.86
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 90.86%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.525%

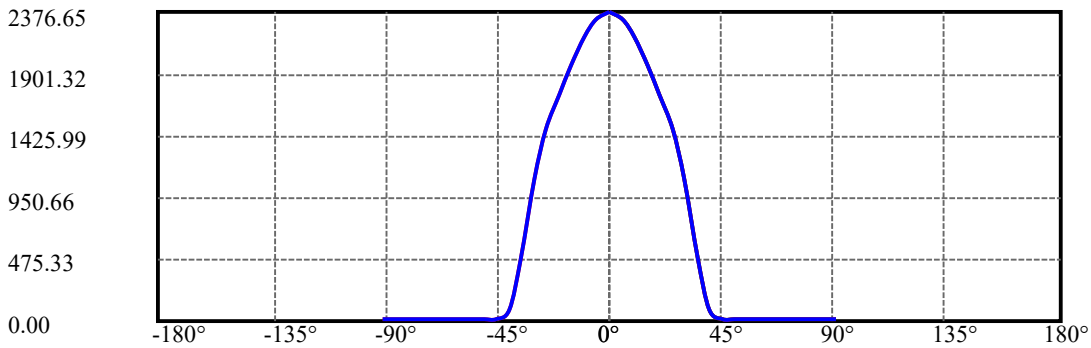
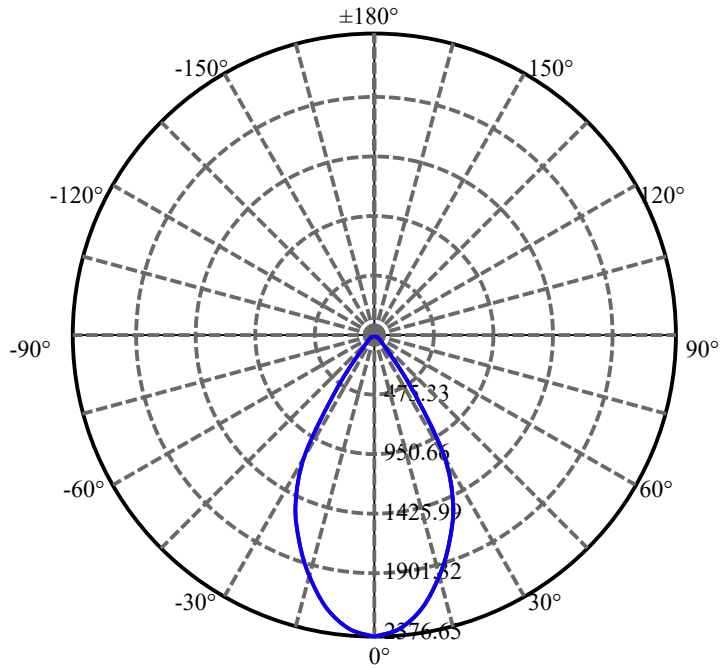
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2376.647	0.000	0	.000%	.000%
5.0	2319.526	56.141	56.141	2.804%	3.086%
10.0	2187.941	161.246	217.388	8.054%	11.950%
15.0	1964.550	246.323	463.711	12.304%	25.491%
20.0	1744.187	305.652	769.363	15.267%	42.294%
25.0	1474.273	337.557	1106.92	16.861%	60.850%
30.0	1086.985	324.129	1431.049	16.190%	78.669%
35.0	491.530	232.447	1663.497	11.611%	91.447%
40.0	85.379	96.253	1759.749	4.808%	96.738%
45.0	13.881	18.379	1778.128	.918%	97.748%
50.0	11.059	5.040	1783.168	.252%	98.025%
55.0	10.034	4.586	1787.754	.229%	98.278%
60.0	9.435	4.500	1792.254	.225%	98.525%
65.0	8.960	4.472	1796.726	.223%	98.771%
70.0	8.644	4.458	1801.184	.223%	99.016%
75.0	8.431	4.463	1805.647	.223%	99.261%
80.0	8.307	4.478	1810.125	.224%	99.507%
85.0	8.190	4.482	1814.608	.224%	99.754%
90.0	8.169	4.479	1819.087	.224%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1431.05	71.48%	78.67%
0-40	1759.75	87.90%	96.74%
0-60	1792.25	89.52%	98.52%
0-90	1814.61	90.64%	99.75%
0-120	1814.61	90.64%	99.75%
0-180	1819.09	90.86%	100.00%
60-90	26.85	1.34%	1.48%
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%
0-30.52	1455.27	72.69%	80.00%

ZONAL LUMEN SUMMARY

0-10	217.39
10-20	551.97
20-30	661.69
30-40	328.70
40-50	23.42
50-60	9.09
60-70	8.93
70-80	8.94
80-90	4.48
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: —————

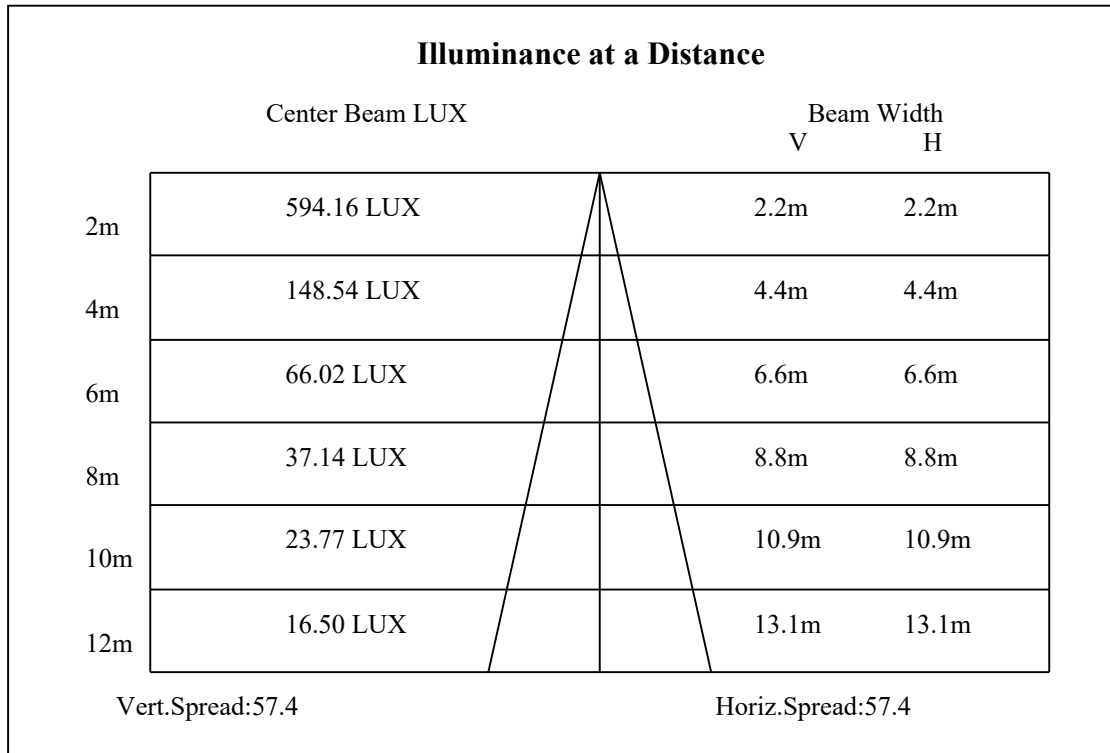
C90/C270: —————

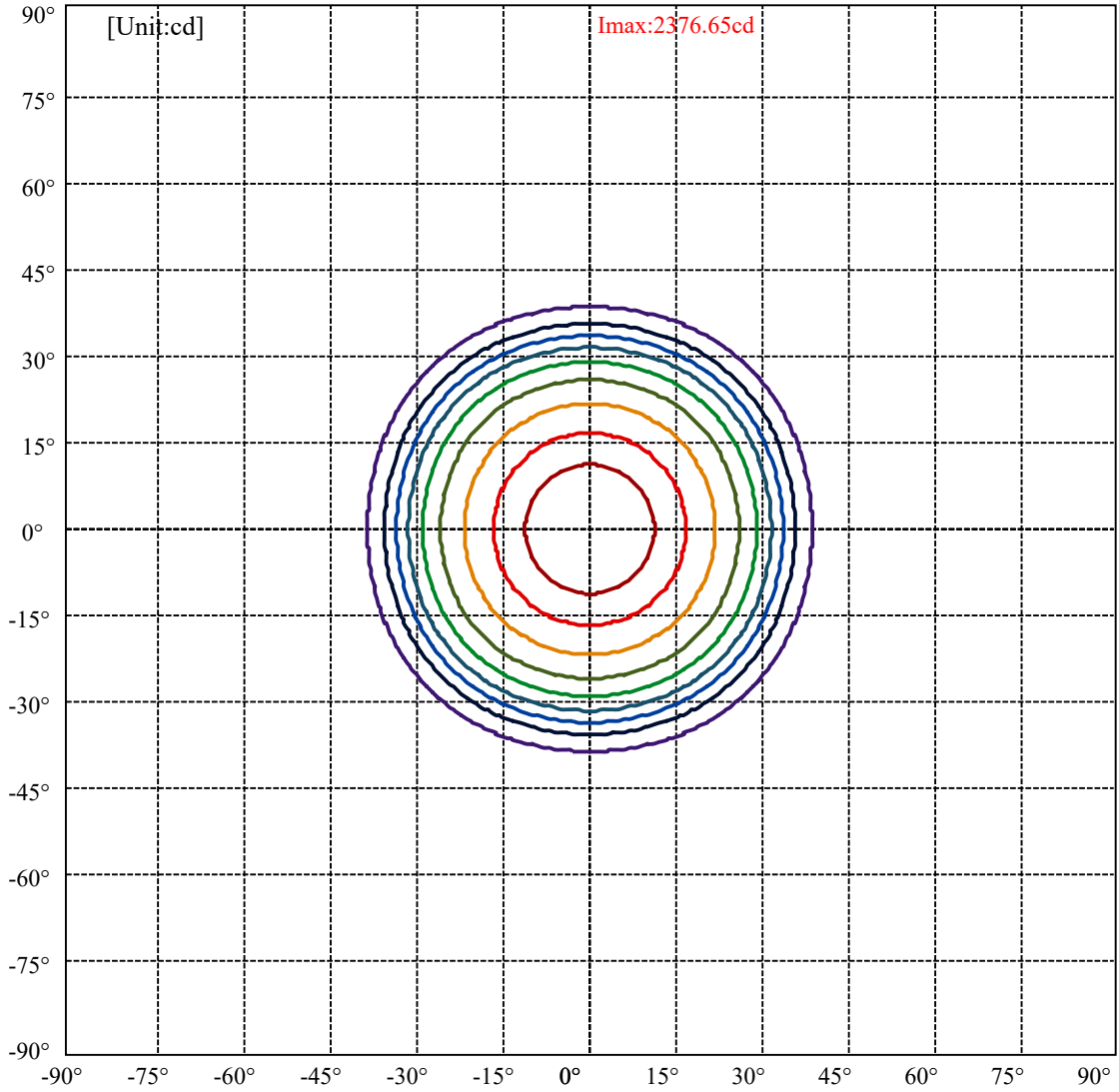
Field angle(10%Imax):C0/180Left:38.1 Right:38.1

:C90/270Left:38.1 Right:38.1

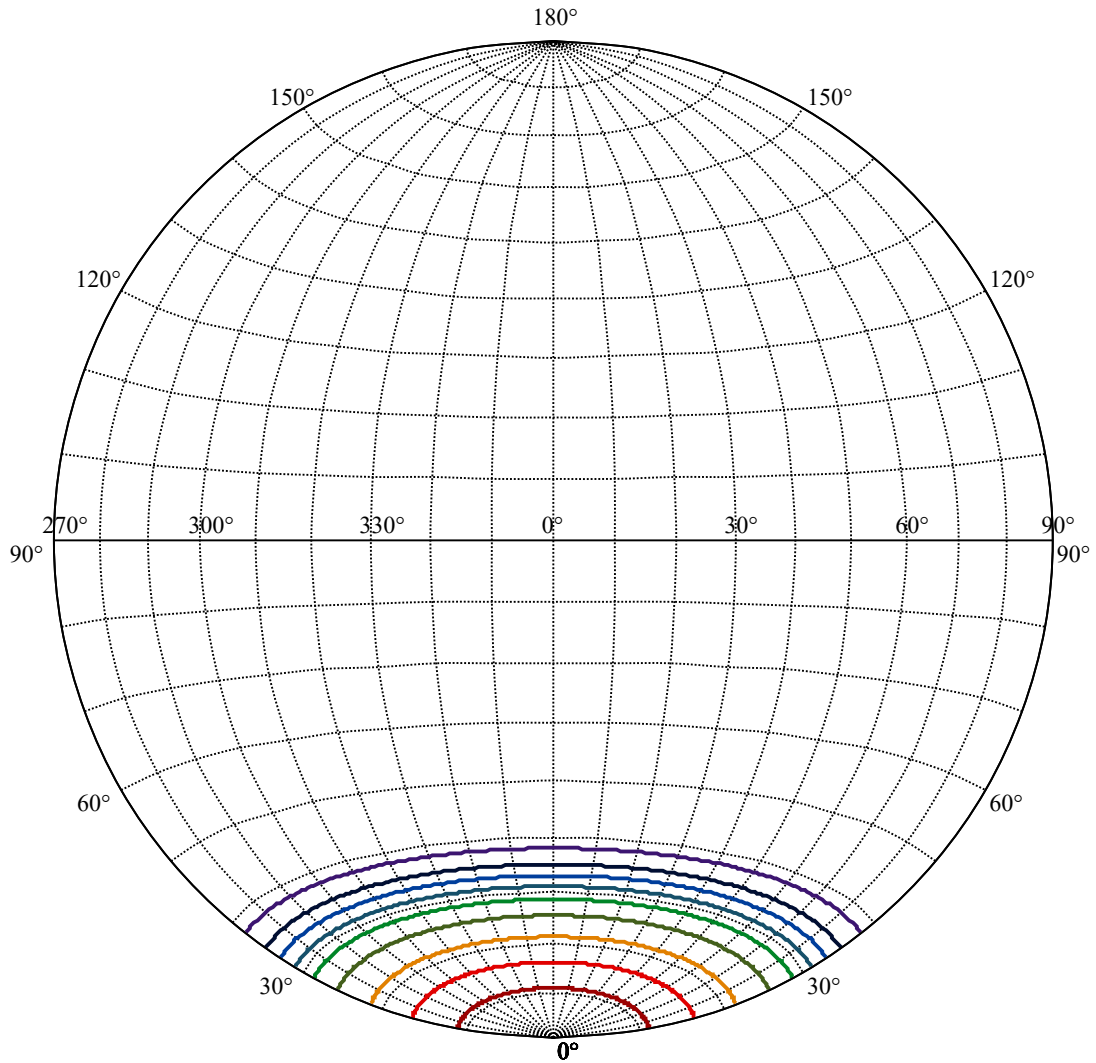
Beam Angle(50%Imax):C0/180Left:28.7 Right:28.7

:C90/270Left:28.7 Right:28.7





(10%Imax) 237.665	—
(20%Imax) 475.329	—
(30%Imax) 712.994	—
(40%Imax) 950.659	—
(50%Imax) 1188.32	—
(60%Imax) 1425.99	—
(70%Imax) 1663.65	—
(80%Imax) 1901.32	—
(90%Imax) 2138.98	—



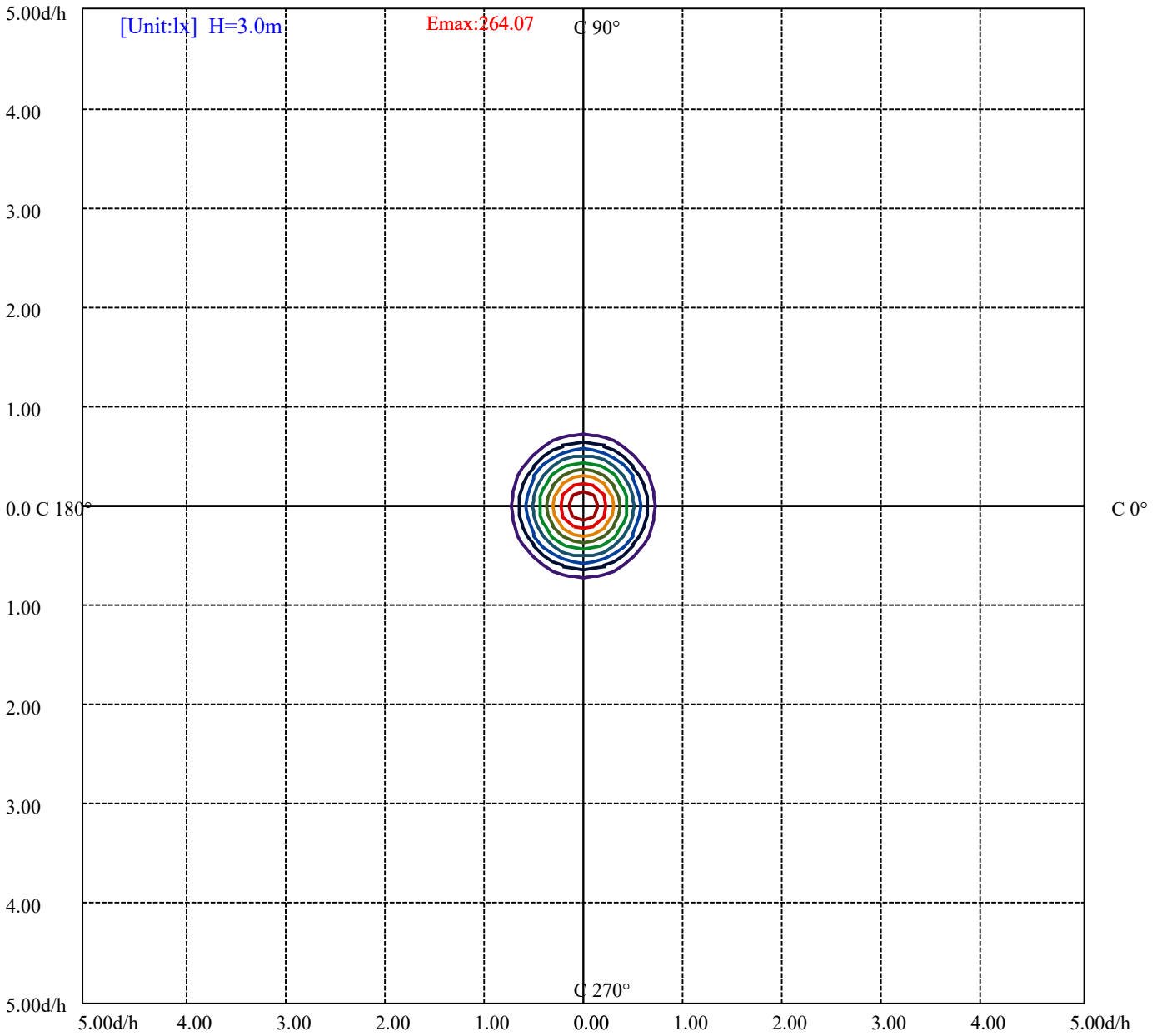
House

[Unit:cd]

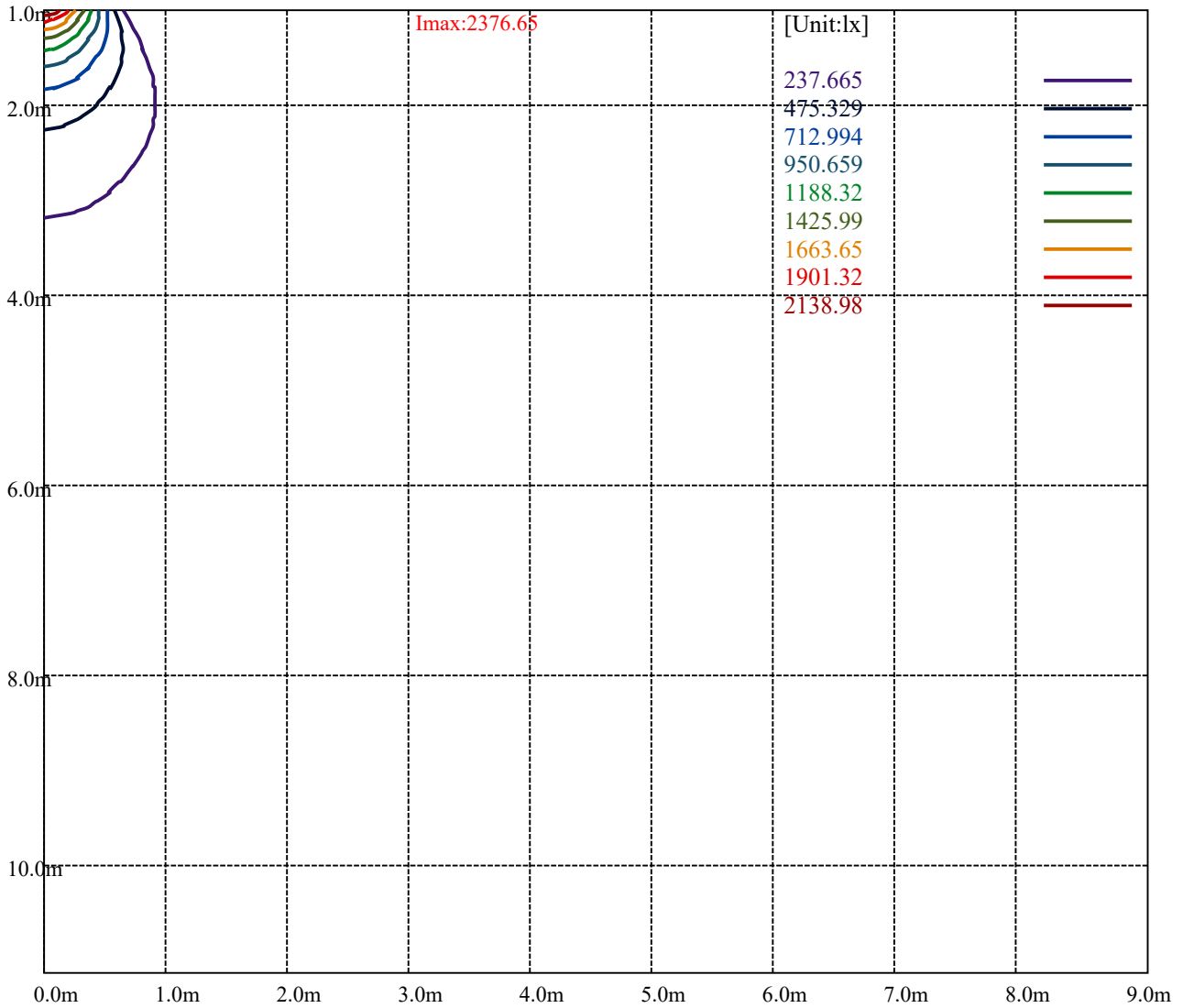
Road

Imax:2376.65

(10%Imax)	237.665	—
(20%Imax)	475.329	—
(30%Imax)	712.994	—
(40%Imax)	950.659	—
(50%Imax)	1188.32	—
(60%Imax)	1425.99	—
(70%Imax)	1663.65	—
(80%Imax)	1901.32	—
(90%Imax)	2138.98	—



(10%Emax) 26.40722	—
(20%Emax) 52.81433	—
(30%Emax) 79.22156	—
(40%Emax) 105.6287	—
(50%Emax) 132.0356	—
(60%Emax) 158.4433	—
(70%Emax) 184.85	—
(80%Emax) 211.2578	—
(90%Emax) 237.6644	—



Luminance Table

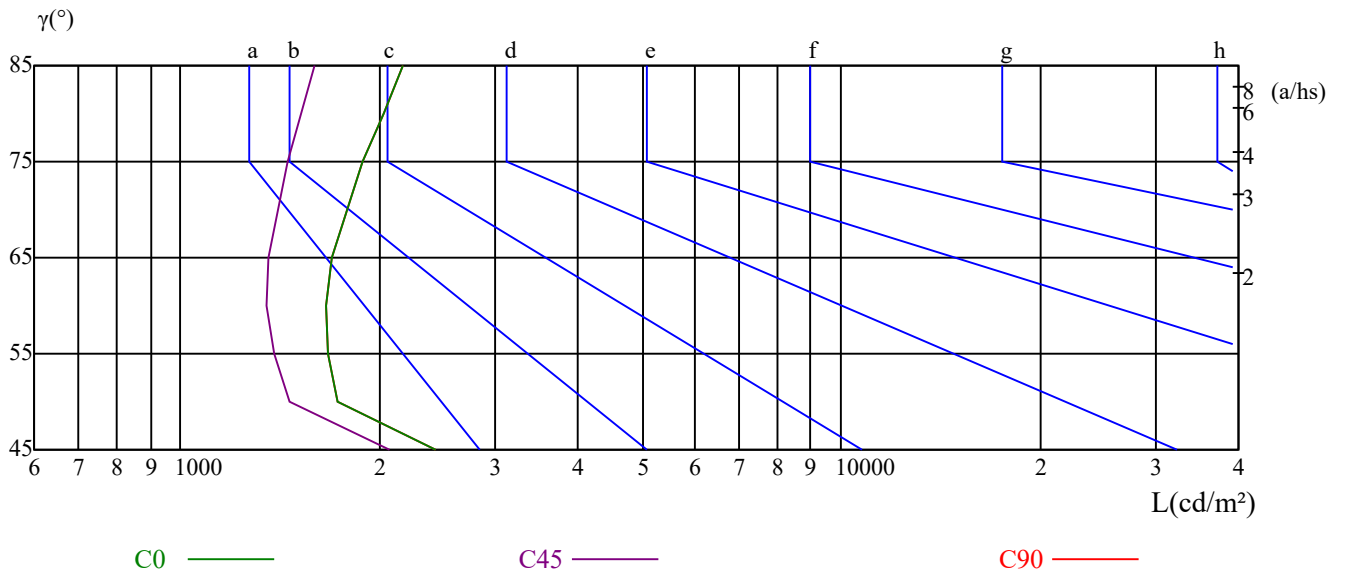
γ	45	50	55	60	65	70	75	80	85
C0	2429	1734	1667	1658	1695	1789	1888	2028	2177
C45	2077	1460	1382	1353	1358	1407	1454	1525	1592
C90	2429	1734	1667	1658	1695	1789	1888	2028	2177

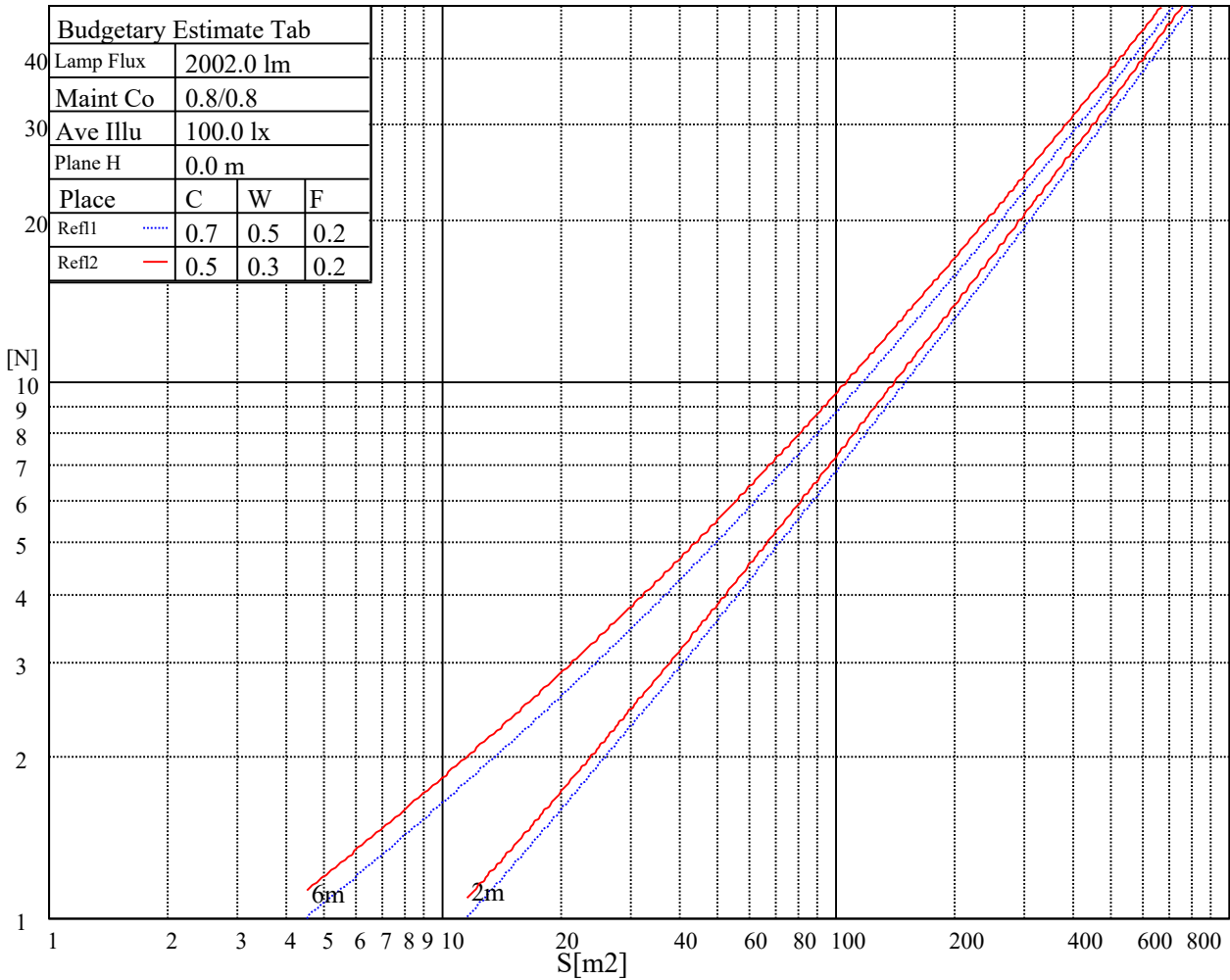
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4210	4210	4210	6766	6766	6766	19403	19403	19403

Glare Table

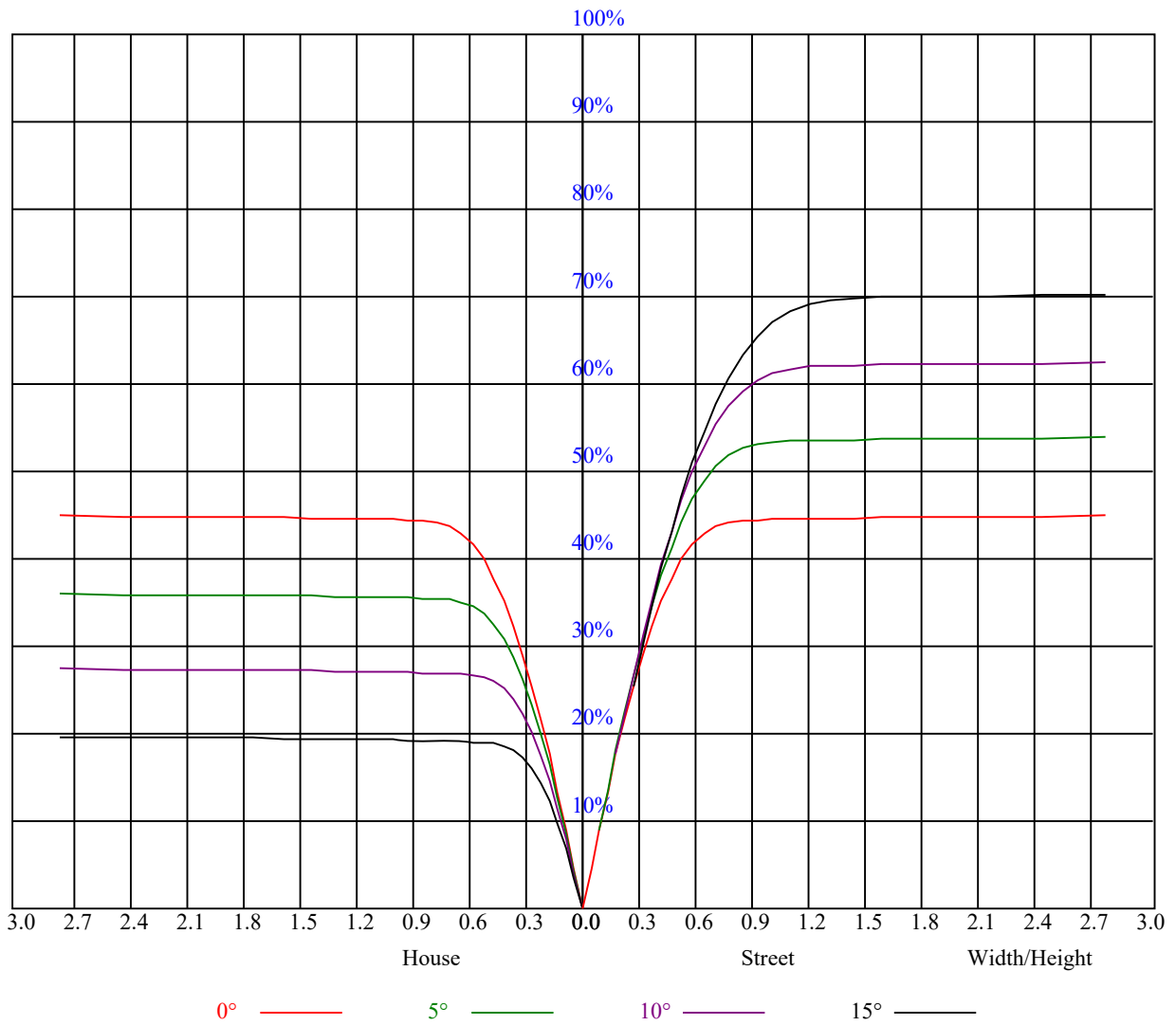
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.08	1.08	1.08	1.06	1.06	1.06	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.91
1	1.01	0.98	0.96	0.99	0.97	0.95	0.95	0.93	0.92	0.92	0.90	0.89	0.89	0.88	0.87	0.85
2	0.94	0.90	0.87	0.92	0.89	0.86	0.90	0.87	0.85	0.87	0.85	0.83	0.84	0.83	0.81	0.80
3	0.88	0.84	0.80	0.87	0.83	0.80	0.84	0.81	0.78	0.82	0.79	0.77	0.80	0.78	0.76	0.75
4	0.83	0.78	0.74	0.82	0.77	0.74	0.80	0.76	0.73	0.78	0.75	0.72	0.76	0.74	0.71	0.70
5	0.78	0.73	0.69	0.77	0.72	0.69	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.69	0.67	0.66
6	0.73	0.68	0.65	0.73	0.68	0.64	0.71	0.67	0.64	0.70	0.66	0.63	0.69	0.66	0.63	0.62
7	0.69	0.64	0.61	0.69	0.64	0.60	0.68	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.59	0.58
8	0.66	0.60	0.57	0.65	0.60	0.57	0.64	0.60	0.57	0.63	0.59	0.56	0.62	0.59	0.56	0.55
9	0.62	0.57	0.54	0.62	0.57	0.54	0.61	0.57	0.53	0.60	0.56	0.53	0.59	0.56	0.53	0.52
10	0.59	0.54	0.51	0.59	0.54	0.51	0.58	0.54	0.51	0.57	0.53	0.50	0.57	0.53	0.50	0.49



Nata 3-1920-E

Intensity data(cd)

C/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	2373.48	2305.76	2156.56	1905.50	1707.85	1428.71	1029.00	428.89	44.93
45.0	2383.39	2337.14	2227.03	2002.95	1772.27	1510.20	1156.73	575.34	73.78
90.0	2382.29	2329.99	2208.31	1984.78	1744.19	1487.62	1085.71	444.58	55.22
135.0	2367.43	2349.81	2243.55	2058.01	1822.37	1563.05	1242.62	683.25	305.56
180.0	2373.48	2331.64	2203.91	1982.58	1772.27	1517.35	1080.59	591.20	80.55
225.0	2383.39	2302.46	2159.31	1937.43	1711.70	1434.77	1041.39	407.25	38.87
270.0	2382.29	2316.22	2175.83	1969.92	1741.98	1471.66	1106.08	495.51	48.28
315.0	2367.43	2283.19	2129.03	1875.22	1680.87	1380.81	953.74	306.22	35.84
360.0	2373.48	2305.76	2156.56	1905.50	1707.85	1428.71	1029.00	428.89	44.93
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	13.87	11.12	9.97	9.30	8.92	8.59	8.37	8.20	8.15
45.0	15.14	11.29	10.13	9.63	9.03	8.75	8.48	8.42	8.20
90.0	13.21	10.90	9.97	9.41	8.97	8.64	8.48	8.31	8.26
135.0	15.58	11.45	10.35	9.63	9.14	8.75	8.53	8.42	8.20
180.0	13.98	11.29	10.24	9.52	9.08	8.70	8.48	8.31	8.20
225.0	12.77	10.68	9.80	9.30	8.81	8.59	8.37	8.26	8.15
270.0	13.65	10.96	9.97	9.36	8.92	8.59	8.42	8.26	8.20
315.0	12.83	10.79	9.86	9.30	8.81	8.53	8.31	8.26	8.15
360.0	13.87	11.12	9.97	9.30	8.92	8.59	8.37	8.20	8.15
C/ γ (°)	90.0								
0.0	8.20								
45.0	8.20								
90.0	8.15								
135.0	8.15								
180.0	8.15								
225.0	8.15								
270.0	8.20								
315.0	8.15								
360.0	8.20								