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Nata

LumCAT: 3-2116-N	
Luminaire: 92.70.131.00	
Report No: NATA0100	Voltage(V): 34.6000
Test No: GC2018091013	Current(A): 0.5100
LampCAT: LUMINUS CXM-11-AC30	Power (W): 17.6460
Lamp flux(lm): 2547.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 80	Width(mm): 80
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 2159.46
Efficiency(%): 84.78%
Lumens(lm)/Power(W): 122.38
Central intensity(cd): 10276.590
Maximum intensity(cd): 10276.590
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=22.1
 [C90/270]Total=22.1
Field angle(10%Imax): [C0/180]Total=46.7
 [C90/270]Total=46.7
Maximum s/h(1/2): C0_180=0.38 C90_270=0.38
Maximum s/h(1/4): C0_180=0.37 C90_270=0.37
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 87.12%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 95.540%

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2018/9/10
Humidity(%): 60.0%

Operator: NT07
Distance(m): 7.50

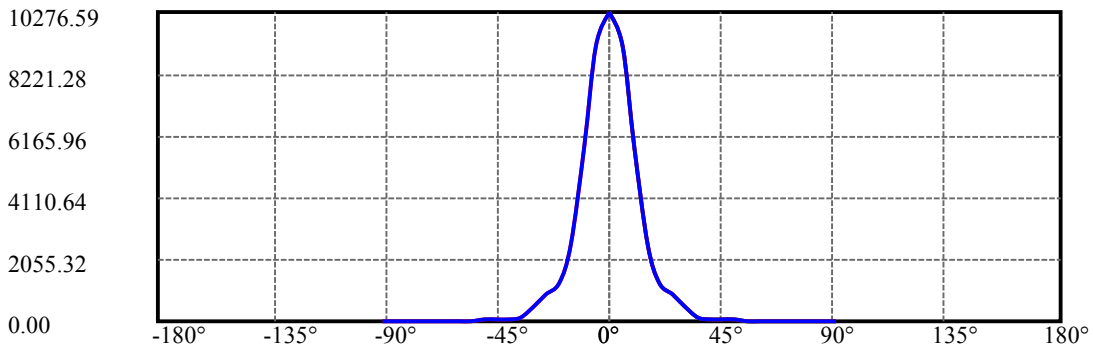
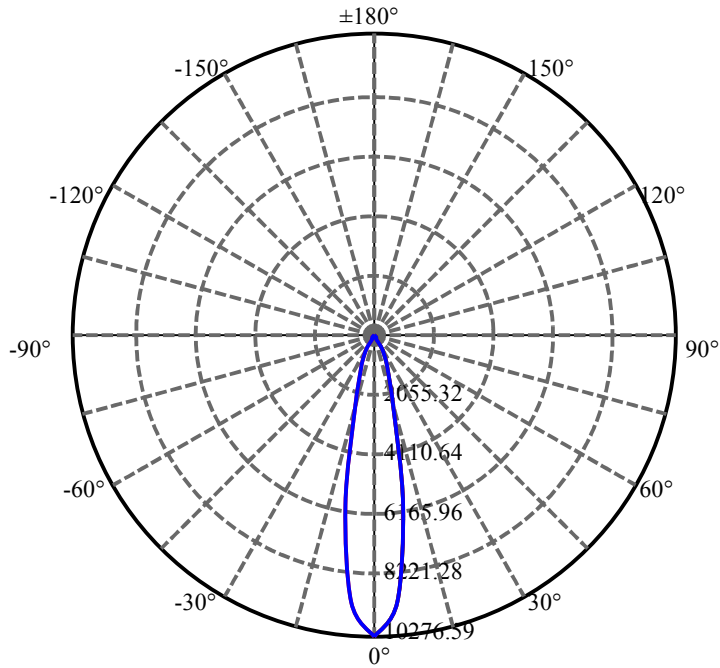
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	10276.594	61.456	61.456	2.413%	2.846%
5.0	9150.539	437.152	498.608	17.163%	23.089%
10.0	5837.344	555.616	1054.224	21.815%	48.819%
15.0	2561.203	363.354	1417.578	14.266%	65.645%
20.0	1261.371	236.474	1654.052	9.284%	76.596%
25.0	911.018	211.040	1865.092	8.286%	86.368%
30.0	523.055	143.353	2008.445	5.628%	93.007%
35.0	127.301	40.023	2048.468	1.571%	94.860%
40.0	53.044	18.689	2067.157	.734%	95.726%
45.0	42.427	16.444	2083.601	.646%	96.487%
50.0	33.792	14.189	2097.791	.557%	97.144%
55.0	26.191	11.760	2109.551	.462%	97.689%
60.0	21.804	10.350	2119.901	.406%	98.168%
65.0	18.429	9.155	2129.056	.359%	98.592%
70.0	14.428	7.432	2136.488	.292%	98.936%
75.0	13.402	7.096	2143.584	.279%	99.265%
80.0	12.628	6.817	2150.4	.268%	99.580%
85.0	11.665	6.370	2156.77	.250%	99.875%
90.0	9.816	2.690	2159.46	.106%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	2008.44	78.86%	93.01%
0-40	2067.16	81.16%	95.73%
0-60	2119.90	83.23%	98.17%
0-90	2156.77	84.68%	99.88%
0-120	2156.77	84.68%	99.88%
0-180	2159.46	84.78%	100.00%
60-90	47.22	1.85%	2.19%
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%
0-21.74	1727.57	67.83%	80.00%

ZONAL LUMEN SUMMARY

0-10	1054.22
10-20	599.83
20-30	354.39
30-40	58.71
40-50	30.63
50-60	22.11
60-70	16.59
70-80	13.91
80-90	6.37
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: —————

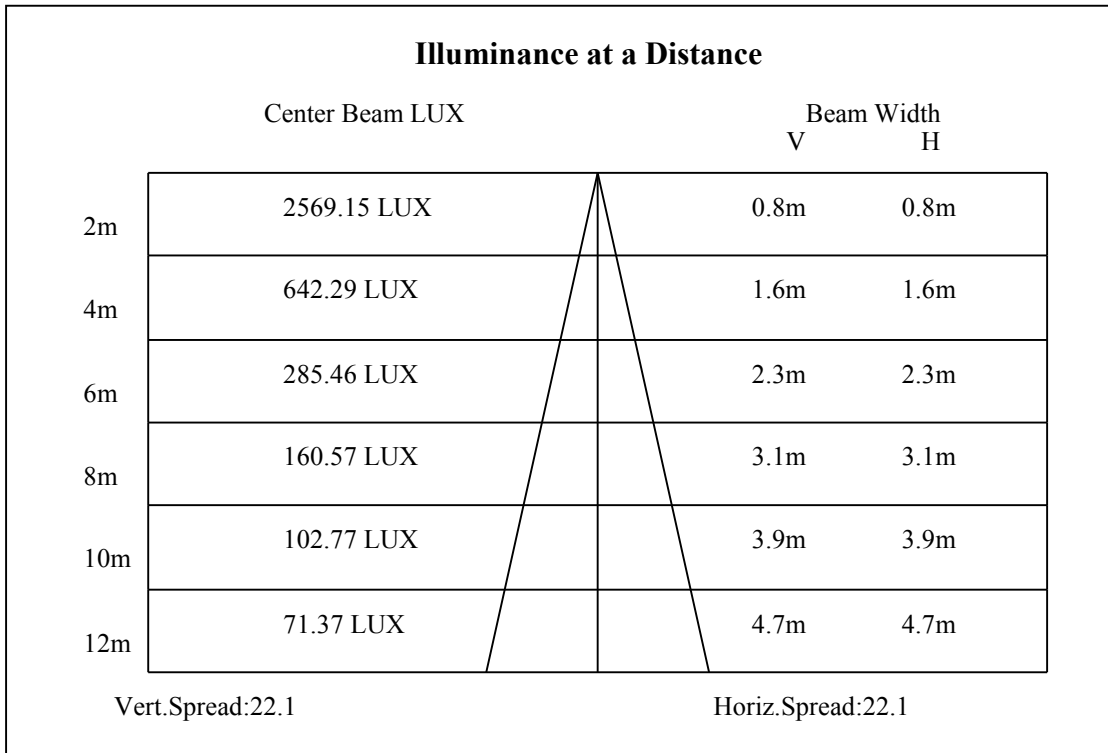
C90/C270: —————

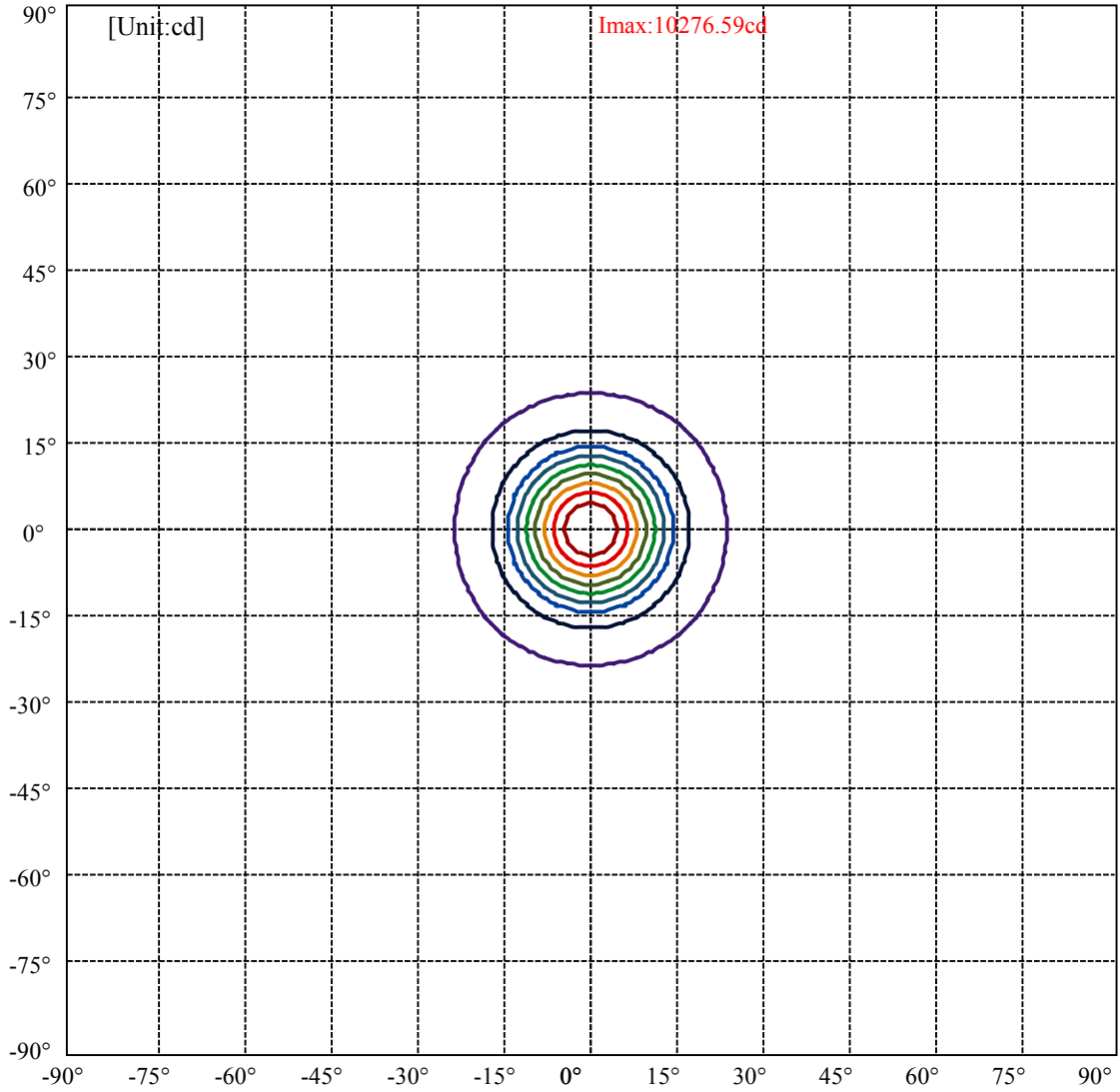
Field angle(10%Imax):C0/180Left:23.3 Right:23.3

:C90/270Left:23.3 Right:23.3

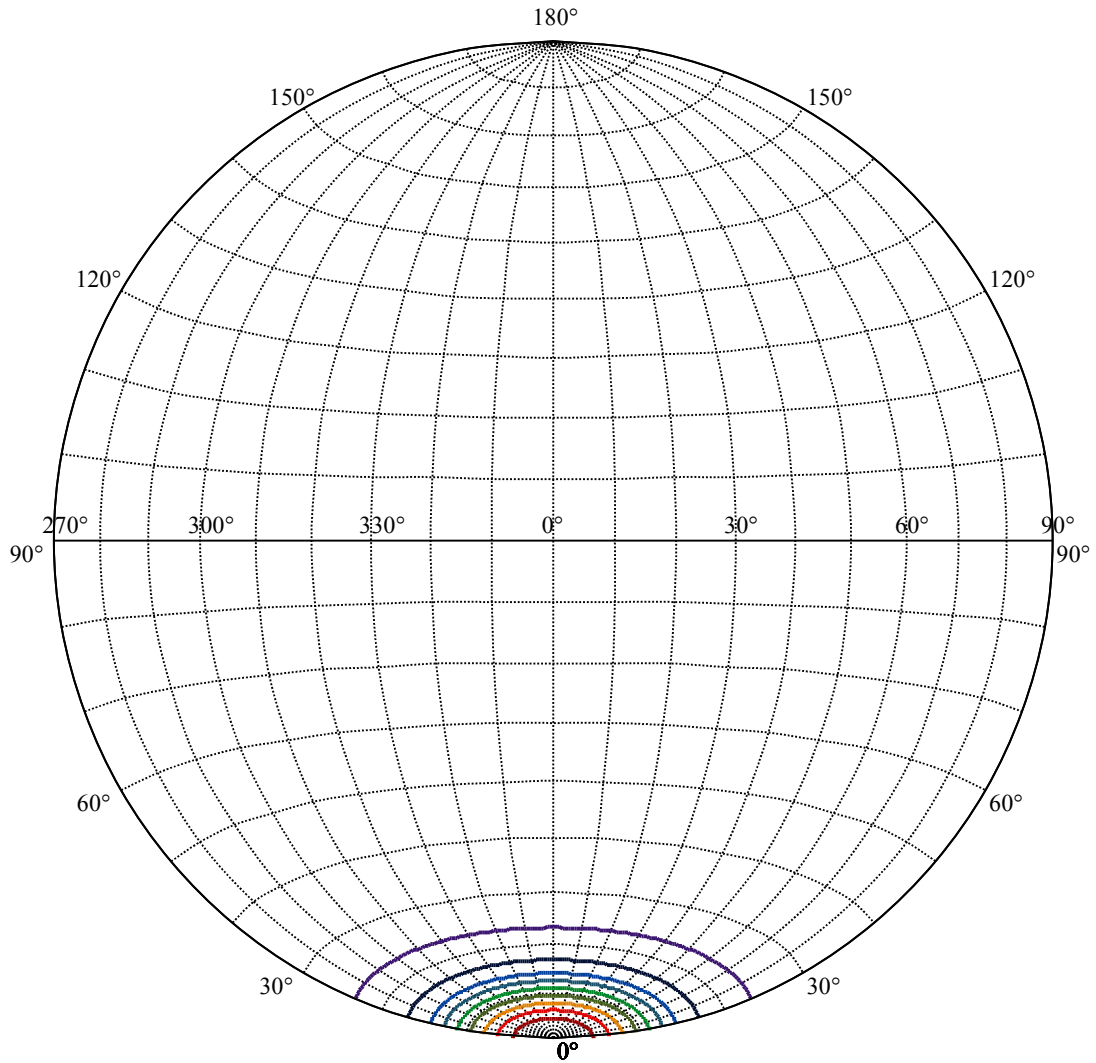
Beam Angle(50%Imax):C0/180Left:11.1 Right:11.1

:C90/270Left:11.1 Right:11.1





(10%Imax) 1027.66	—
(20%Imax) 2055.32	—
(30%Imax) 3082.98	—
(40%Imax) 4110.64	—
(50%Imax) 5138.3	—
(60%Imax) 6165.96	—
(70%Imax) 7193.62	—
(80%Imax) 8221.28	—
(90%Imax) 9248.93	—



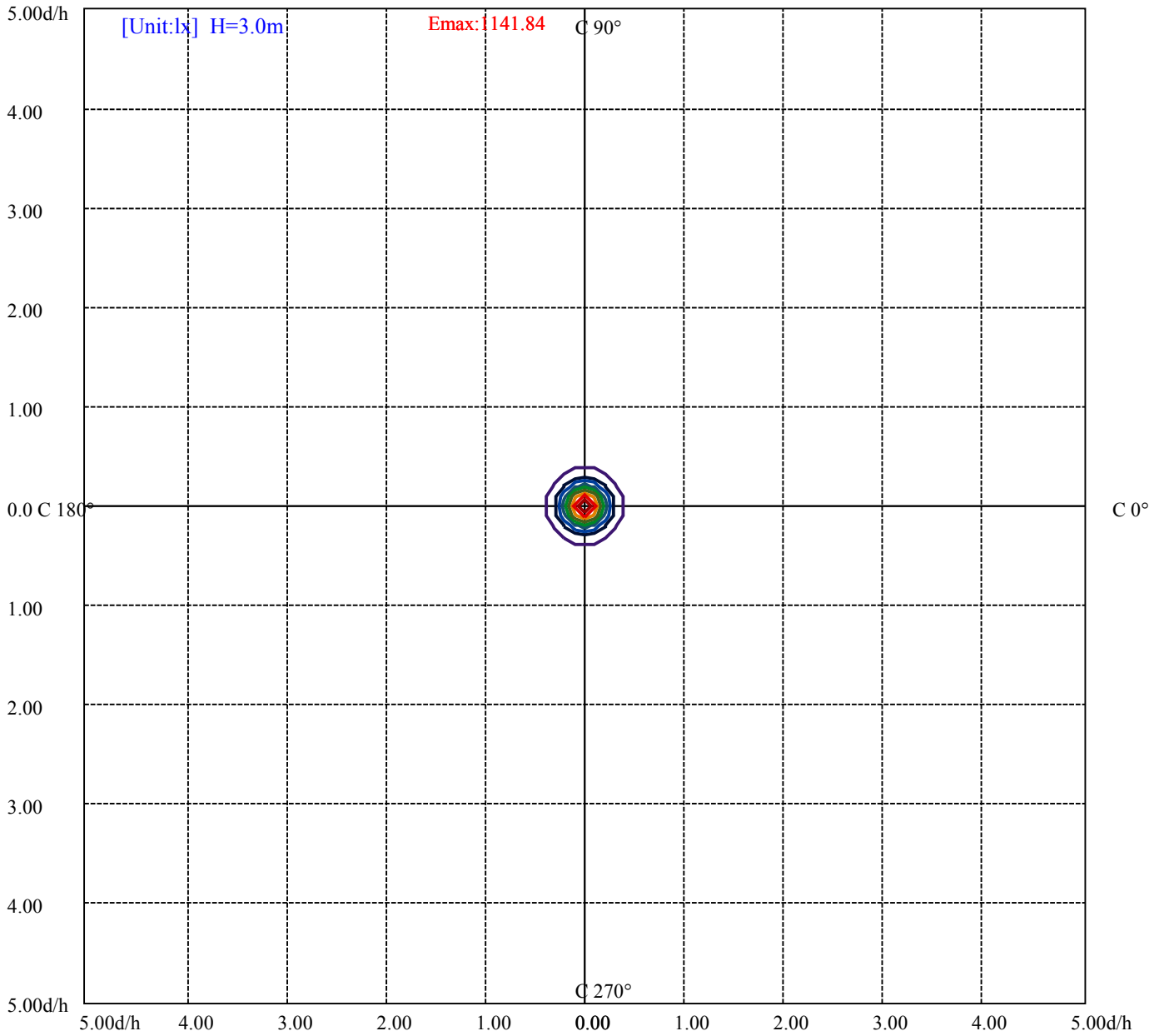
House

[Unit:cd]

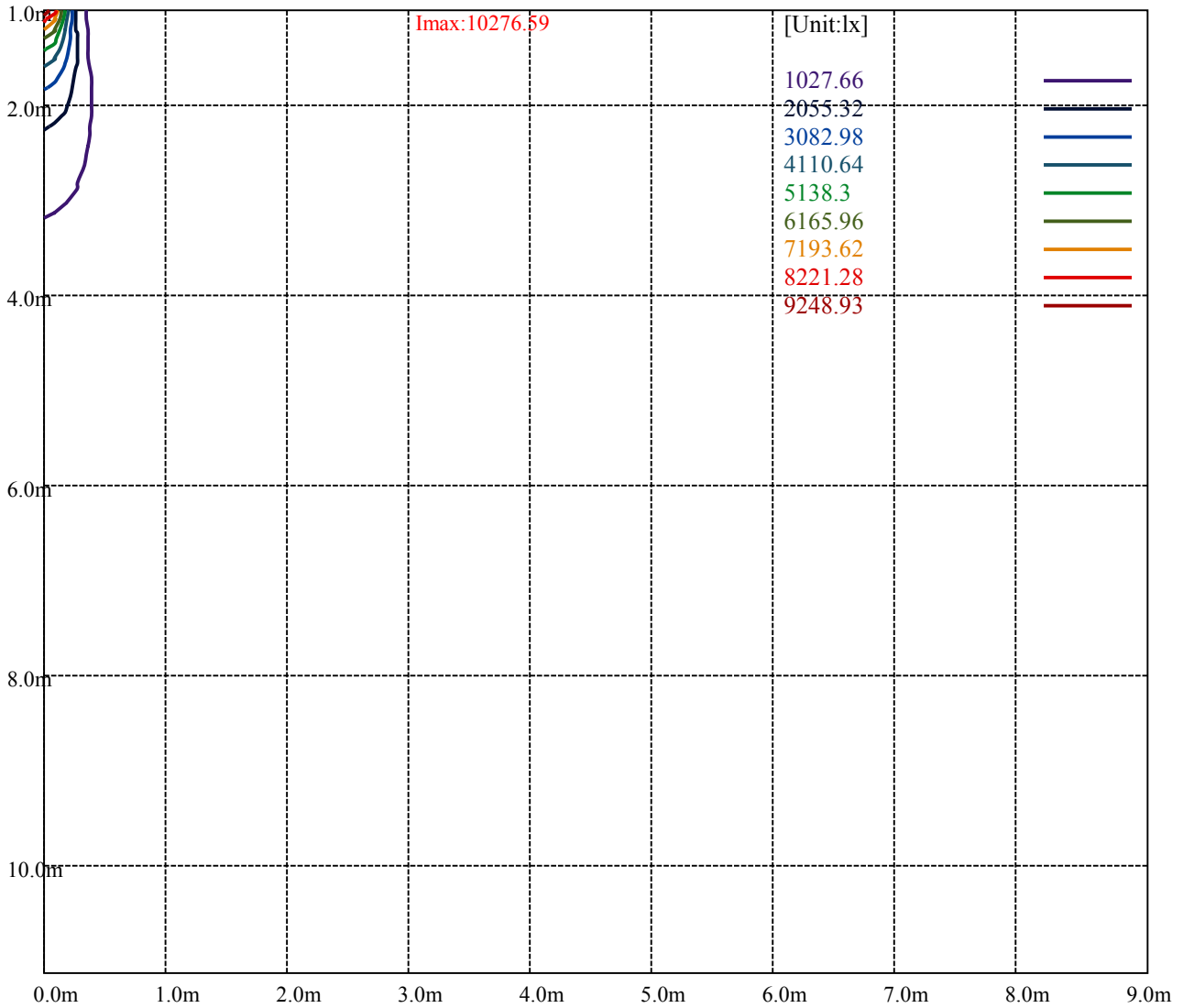
Road

Imax:10276.59

(10%Imax)	1027.66	—
(20%Imax)	2055.32	—
(30%Imax)	3082.98	—
(40%Imax)	4110.64	—
(50%Imax)	5138.3	—
(60%Imax)	6165.96	—
(70%Imax)	7193.62	—
(80%Imax)	8221.28	—
(90%Imax)	9248.93	—



(10%E _{max}) 114.1844	—
(20%E _{max}) 228.3678	—
(30%E _{max}) 342.5522	—
(40%E _{max}) 456.7356	—
(50%E _{max}) 570.92	—
(60%E _{max}) 685.1044	—
(70%E _{max}) 799.2878	—
(80%E _{max}) 913.4722	—
(90%E _{max}) 1027.656	—



Luminance Table

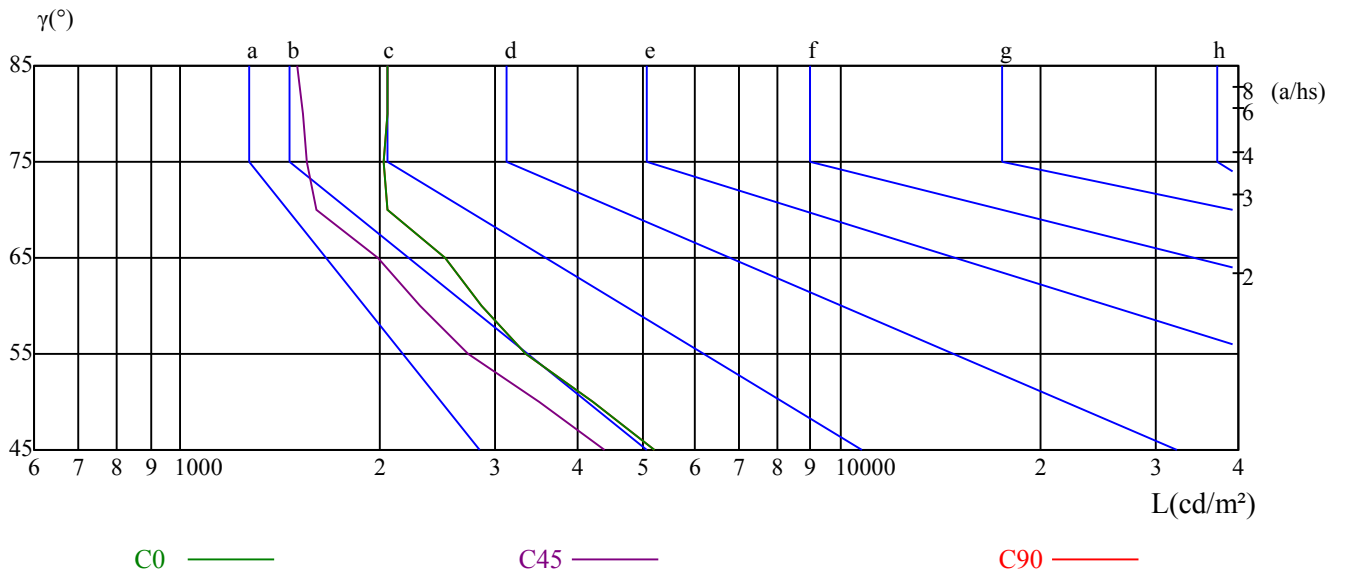
γ	45	50	55	60	65	70	75	80	85
C0	5208	4205	3330	2856	2509	2061	2030	2052	2062
C45	4399	3498	2728	2302	1989	1604	1549	1532	1501
C90	5208	4205	3330	2856	2509	2061	2030	2052	2062

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
6814	6814	6814	8091	8091	8091	20912	20912	20912

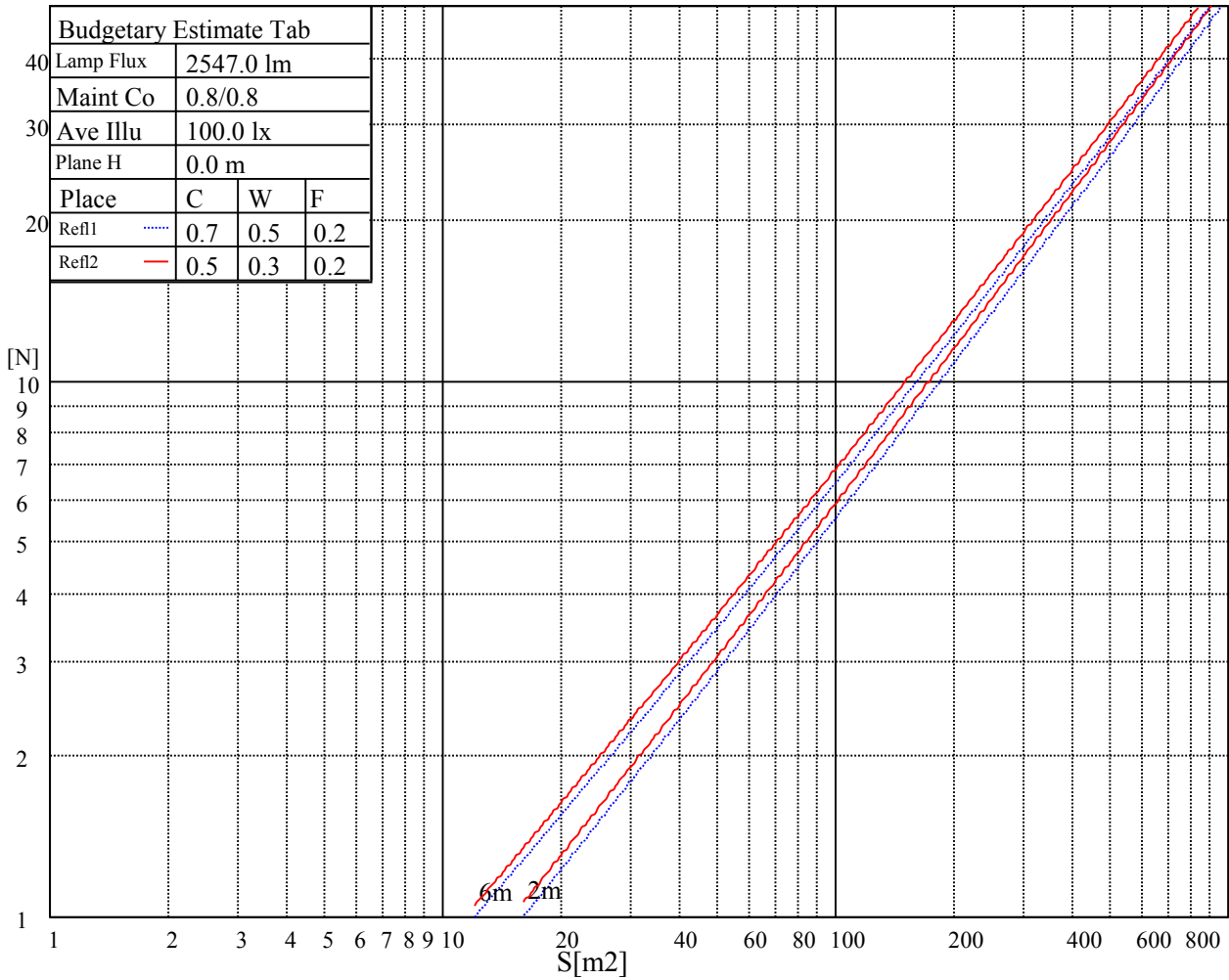
Glare Table

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

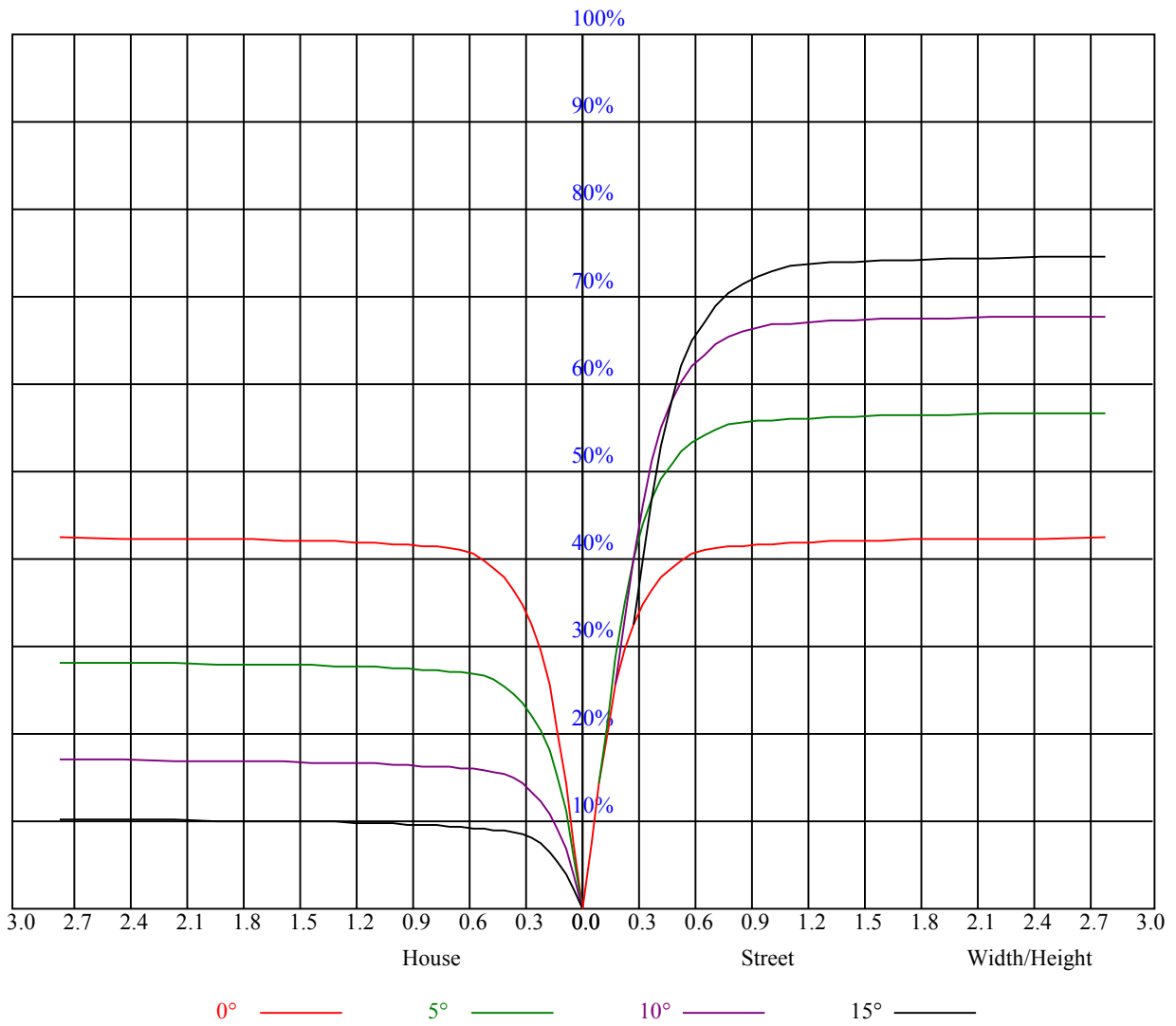
Luminance Limiting Curve



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	5.29	6.24	5.66	6.55	6.87	5.36	6.31	5.72	6.62	6.94
	3H	6.44	7.28	6.83	7.61	7.98	6.54	7.37	6.92	7.71	8.08
	4H	7.06	7.84	7.47	8.20	8.59	7.16	7.94	7.57	8.29	8.68
	6H	7.79	8.50	8.20	8.87	9.27	7.87	8.58	8.29	8.96	9.35
	8H	8.16	8.83	8.60	9.22	9.63	8.23	8.90	8.67	9.29	9.71
	12H	8.77	9.41	9.21	9.80	10.23	8.83	9.47	9.27	9.85	10.29
4H	2H	5.50	6.27	5.90	6.63	7.02	5.56	6.33	5.96	6.69	7.08
	3H	6.87	7.51	7.29	7.92	8.33	6.95	7.59	7.37	8.00	8.41
	4H	7.66	8.23	8.10	8.66	9.10	7.75	8.32	8.18	8.74	9.19
	6H	8.46	8.95	8.93	9.40	9.88	8.54	9.02	9.01	9.48	9.95
	8H	8.96	9.41	9.44	9.87	10.34	9.02	9.47	9.50	9.92	10.40
	12H	9.64	10.03	10.13	10.52	11.00	9.68	10.07	10.17	10.56	11.04
8H	4H	7.88	8.34	8.36	8.79	9.27	7.96	8.41	8.44	8.87	9.34
	6H	8.91	9.27	9.42	9.77	10.26	8.97	9.33	9.48	9.84	10.32
	8H	9.55	9.87	10.08	10.39	10.89	9.60	9.92	10.13	10.44	10.94
	12H	10.42	10.69	10.94	11.19	11.77	10.45	10.72	10.97	11.22	11.80
12H	4H	7.91	8.31	8.41	8.80	9.27	7.99	8.38	8.48	8.87	9.35
	6H	9.25	9.33	9.55	9.81	10.36	9.31	9.39	9.61	9.86	10.41
	8H	9.74	10.01	10.26	10.51	11.09	9.78	10.06	10.31	10.56	11.14
Variation with the observer position at spacings:											
S = 1.0H	3.8/-1.9					3.8/-1.9					
S = 1.5H	5.2/-1.7					5.2/-1.7					
S = 2.0H	6.3/-1.5					6.3/-1.5					
Standard tables:	BK4					BK4					
Uncorrected UGR	-4.8					-4.8					



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	1.04	1.04	1.04	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.87
1	0.95	0.92	0.90	0.93	0.91	0.89	0.89	0.88	0.86	0.86	0.85	0.83	0.83	0.82	0.81	0.79
2	0.90	0.87	0.84	0.89	0.86	0.83	0.86	0.83	0.81	0.83	0.81	0.80	0.81	0.79	0.78	0.76
3	0.86	0.83	0.80	0.85	0.82	0.79	0.83	0.80	0.78	0.81	0.78	0.76	0.79	0.77	0.75	0.74
4	0.83	0.79	0.76	0.82	0.78	0.76	0.80	0.77	0.75	0.79	0.76	0.74	0.77	0.75	0.73	0.72
5	0.80	0.76	0.73	0.79	0.76	0.73	0.78	0.75	0.72	0.76	0.74	0.72	0.75	0.73	0.71	0.70
6	0.77	0.73	0.71	0.77	0.73	0.70	0.76	0.72	0.70	0.75	0.72	0.69	0.73	0.71	0.69	0.68
7	0.75	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.66
8	0.73	0.69	0.67	0.73	0.69	0.66	0.72	0.69	0.66	0.71	0.68	0.66	0.70	0.68	0.66	0.65
9	0.71	0.67	0.65	0.71	0.67	0.65	0.70	0.67	0.65	0.69	0.67	0.64	0.69	0.66	0.64	0.63
10	0.69	0.66	0.63	0.69	0.66	0.63	0.69	0.65	0.63	0.68	0.65	0.63	0.67	0.65	0.63	0.62



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	10346.06	9114.19	5743.69	2369.81	1269.56	909.00	498.38	74.93	52.14
45.0	10176.19	9737.44	6888.94	3125.25	1497.94	981.56	680.06	301.50	57.21
90.0	10321.31	9361.69	6099.75	2667.38	1116.73	930.09	572.06	75.43	54.11
135.0	10262.81	9650.81	6923.25	3221.44	1487.25	983.25	688.50	290.81	57.83
180.0	10346.06	9331.31	5922.00	2591.44	1233.00	918.96	542.14	78.92	54.51
225.0	10176.19	8571.38	4867.31	2027.25	1116.96	862.54	364.56	66.60	50.01
270.0	10321.31	8893.69	5510.81	2451.38	1262.81	865.69	474.75	66.94	50.18
315.0	10262.81	8543.81	4743.00	2035.69	1106.72	837.06	363.99	63.28	48.38
360.0	10346.06	9114.19	5743.69	2369.81	1269.56	909.00	498.38	74.93	52.14
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	41.85	33.86	26.21	21.38	18.90	14.46	13.44	12.49	11.31
45.0	45.51	36.79	28.29	22.67	19.97	14.85	13.84	12.88	12.04
90.0	43.43	34.43	26.61	21.94	19.18	14.29	13.39	12.54	11.87
135.0	45.68	35.78	27.45	22.84	19.41	14.63	13.50	12.66	12.26
180.0	42.92	34.54	26.94	22.22	19.35	14.74	13.67	12.77	11.98
225.0	39.49	31.56	24.98	21.09	16.43	14.34	13.28	12.88	11.19
270.0	41.29	32.40	25.09	21.43	17.94	14.23	13.22	12.60	11.53
315.0	39.26	30.99	23.96	20.87	16.26	13.89	12.88	12.21	11.14
360.0	41.85	33.86	26.21	21.38	18.90	14.46	13.44	12.49	11.31
C/ γ (°)	90.0								
0.0	9.79								
45.0	9.96								
90.0	9.84								
135.0	9.84								
180.0	9.79								
225.0	9.79								
270.0	9.79								
315.0	9.73								
360.0	9.79								