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Nata

LumCAT: 1405-N	
Luminaire: 92.70.044.00	
Report No: NT2017110704	Voltage(V): 20.1000
Test No: GC2017110402	Current(A): 0.3000
LampCAT: NVNWS007Z-V1	Power (W): 6.0300
Lamp flux(lm): 824.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 39	Width(mm): 39
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 682.87
Efficiency(%): 82.87%
Lumens(lm)/Power(W): 115.07
Central intensity(cd): 1949.272
Maximum intensity(cd): 1949.272
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=21.6
[C90/270]Total=21.6
Field angle(10%Imax): [C0/180]Total=69.0
[C90/270]Total=69.0
Maximum s/h(1/2): C0_180=0.36 C90_270=0.36
Maximum s/h(1/4): C0_180=0.40 C90_270=0.40
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 84.21%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 95.381%

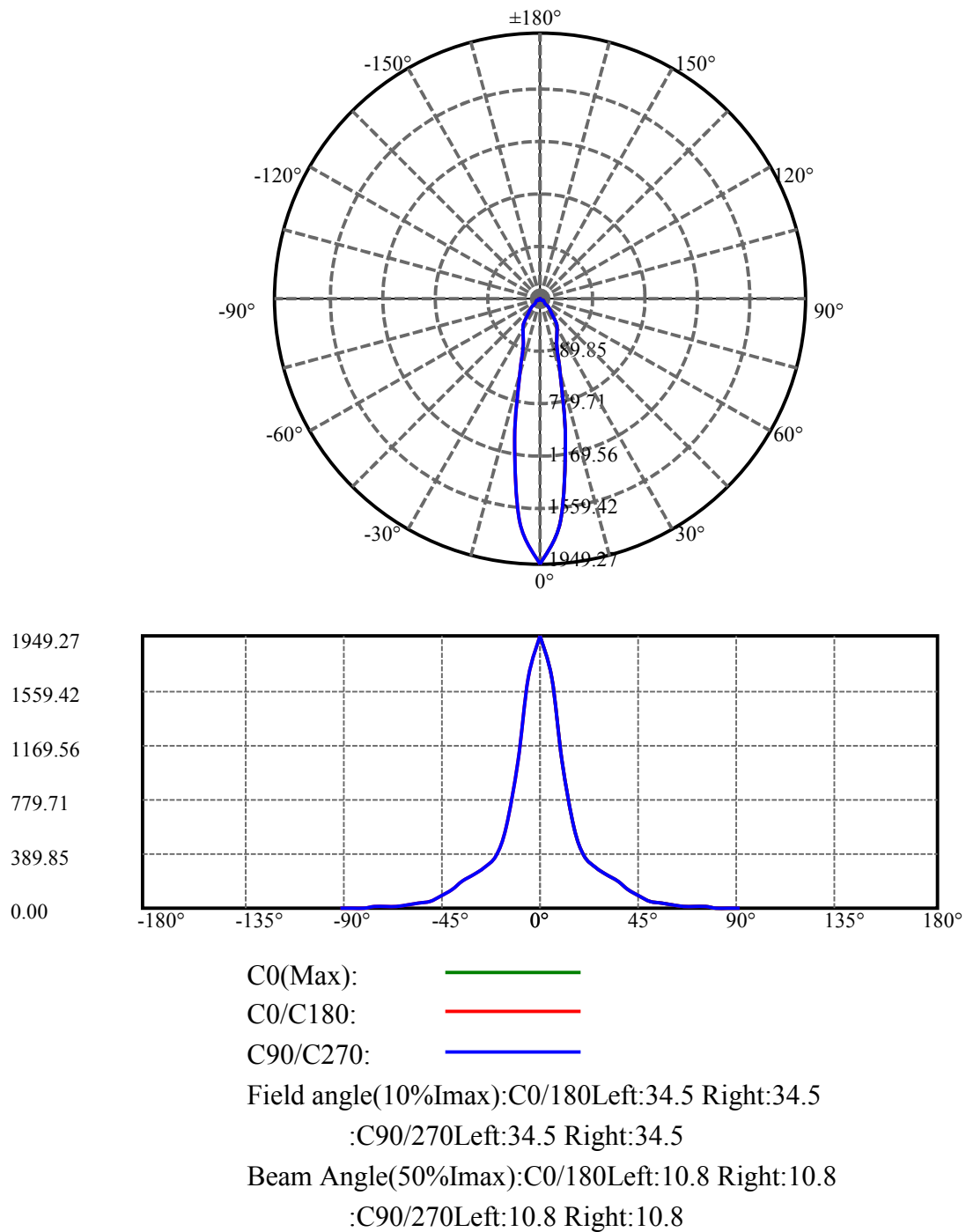
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1949.272	11.657	11.657	1.415%	1.707%
5.0	1643.227	78.502	90.159	9.527%	13.203%
10.0	1050.800	100.018	190.178	12.138%	27.850%
15.0	584.527	82.926	273.104	10.064%	39.993%
20.0	379.160	71.083	344.186	8.627%	50.403%
25.0	286.149	66.287	410.473	8.045%	60.110%
30.0	236.405	64.791	475.265	7.863%	69.598%
35.0	190.062	59.755	535.02	7.252%	78.348%
40.0	138.680	48.862	583.882	5.930%	85.504%
45.0	86.053	33.353	617.235	4.048%	90.388%
50.0	50.927	21.384	638.62	2.595%	93.519%
55.0	30.370	13.637	652.256	1.655%	95.516%
60.0	20.164	9.572	661.828	1.162%	96.918%
65.0	13.716	6.814	668.642	.827%	97.916%
70.0	9.972	5.136	673.778	.623%	98.668%
75.0	7.089	3.753	677.532	.455%	99.218%
80.0	5.010	2.705	680.236	.328%	99.614%
85.0	3.448	1.883	682.119	.228%	99.890%
90.0	2.753	0.754	682.873	.092%	100.000%

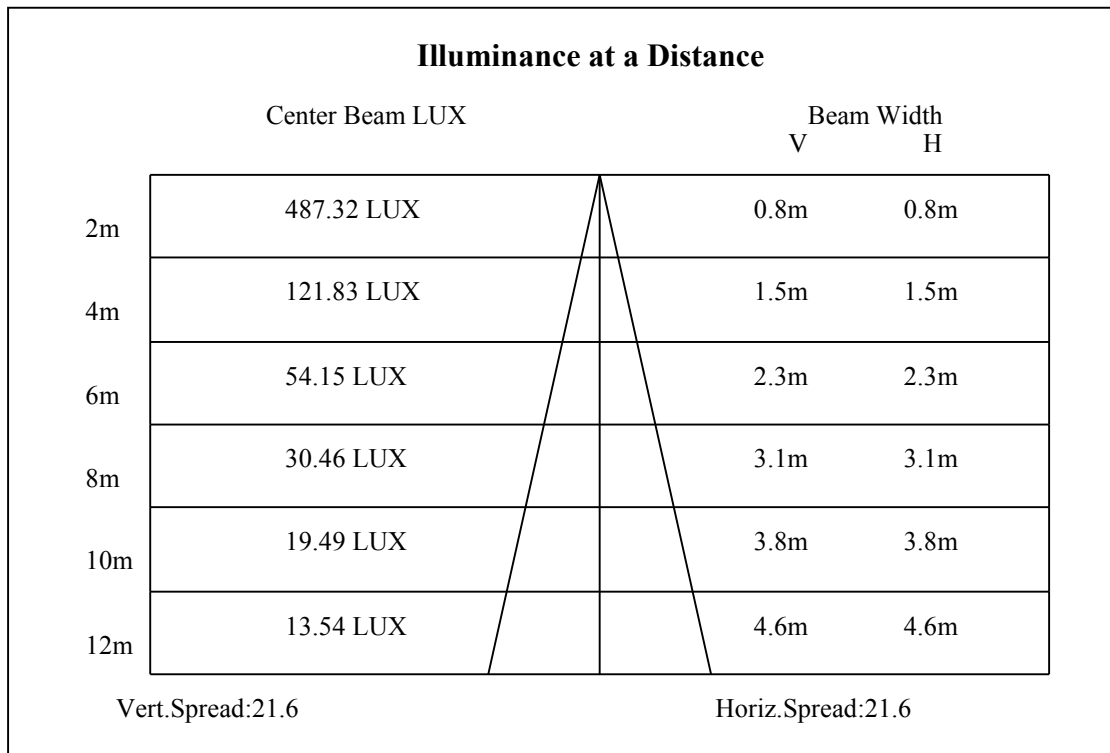
ZONAL LUMEN SUMMARY

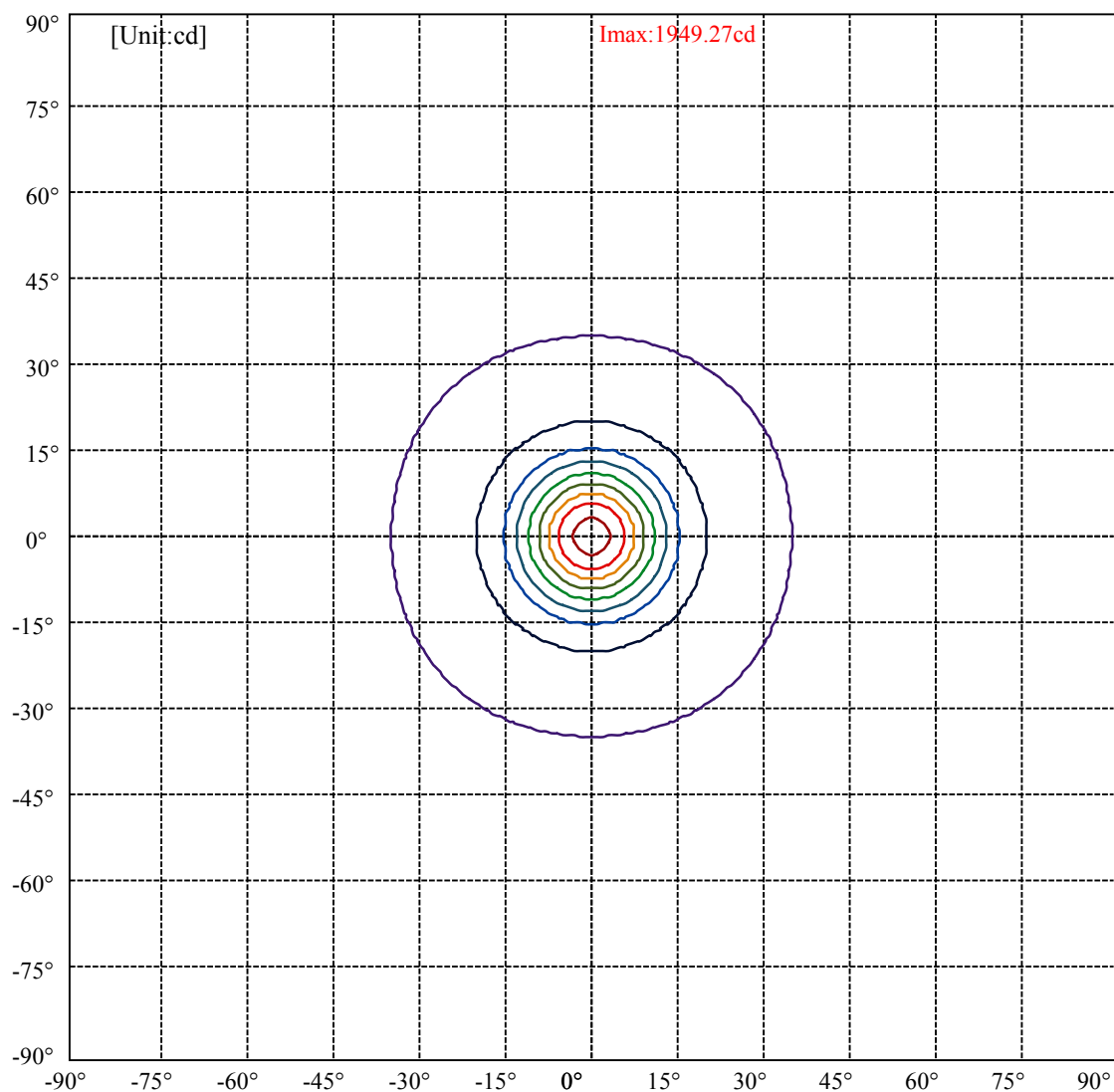
Zone	Lumens	%Lamp	%Fixt
0-30	475.26	57.68%	69.60%
0-40	583.88	70.86%	85.50%
0-60	661.83	80.32%	96.92%
0-90	682.12	82.78%	99.89%
0-120	682.12	82.78%	99.89%
0-180	682.87	82.87%	100.00%
60-90	29.86	3.62%	4.37%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-36.15	546.30	66.30%	80.00%

ZONAL LUMEN SUMMARY

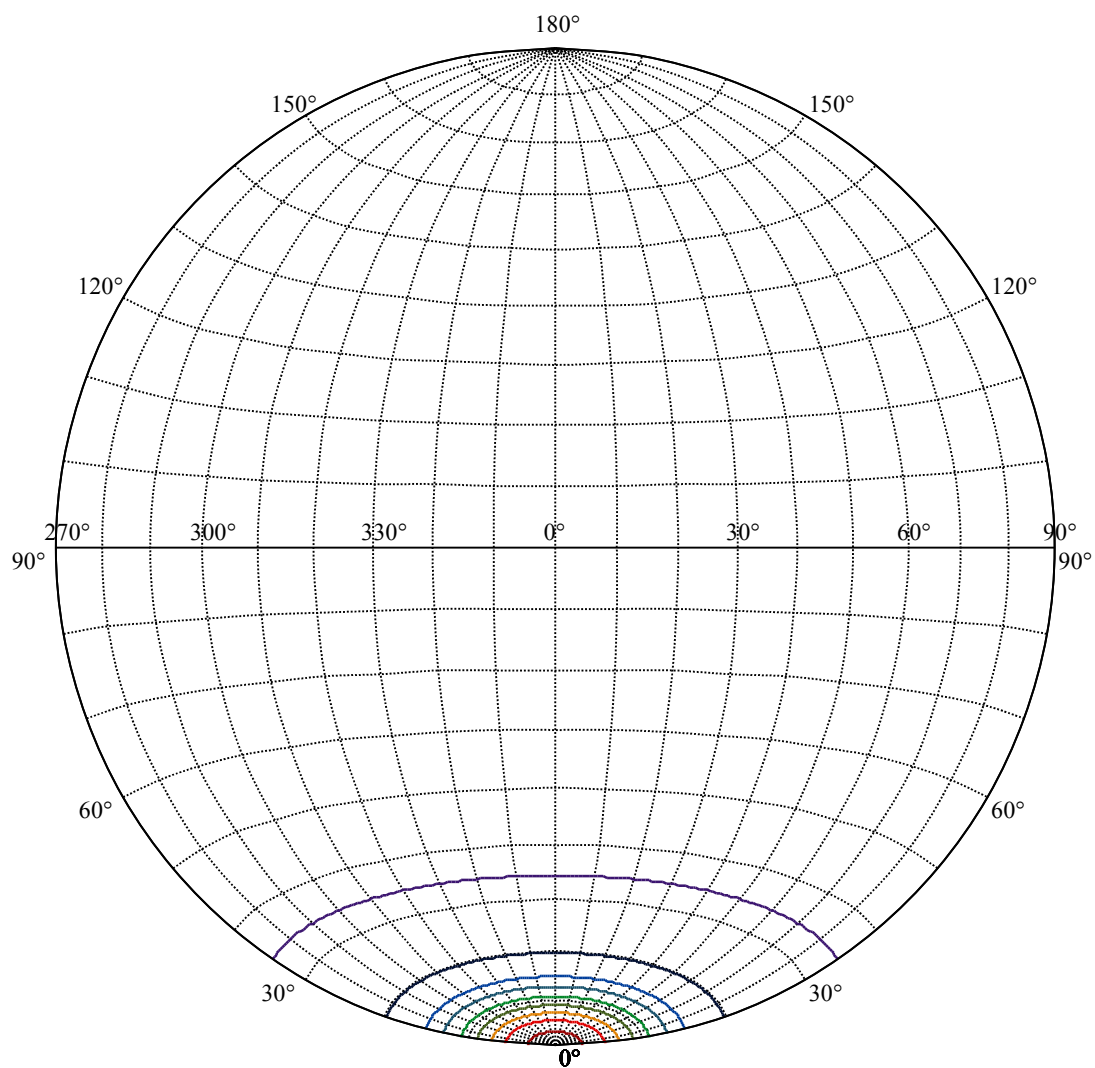
0-10	190.18
10-20	154.01
20-30	131.08
30-40	108.62
40-50	54.74
50-60	23.21
60-70	11.95
70-80	6.46
80-90	1.88
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00







(10%Imax) 194.927	—
(20%Imax) 389.854	—
(30%Imax) 584.781	—
(40%Imax) 779.709	—
(50%Imax) 974.636	—
(60%Imax) 1169.56	—
(70%Imax) 1364.49	—
(80%Imax) 1559.42	—
(90%Imax) 1754.34	—



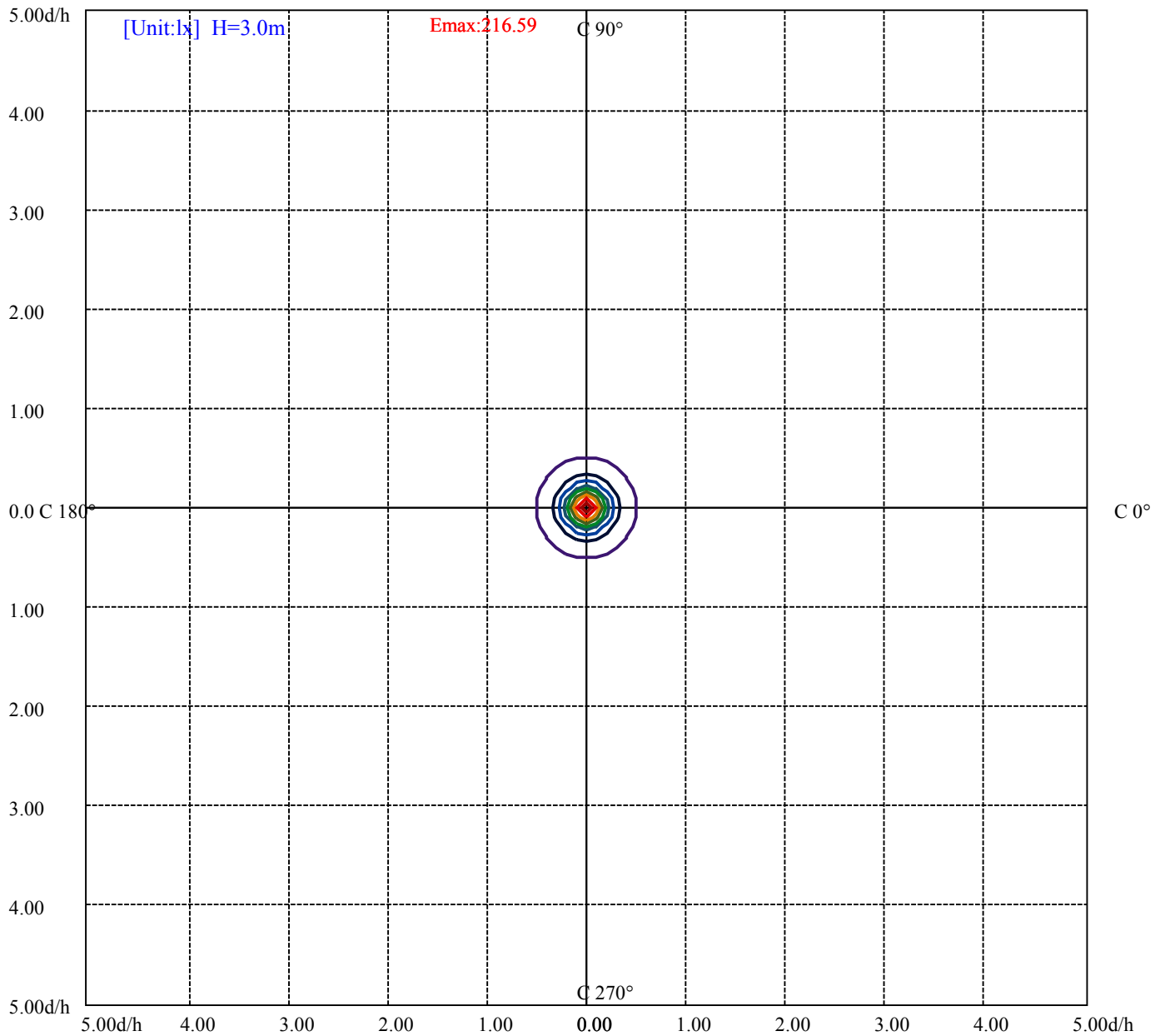
House

[Unit:cd]

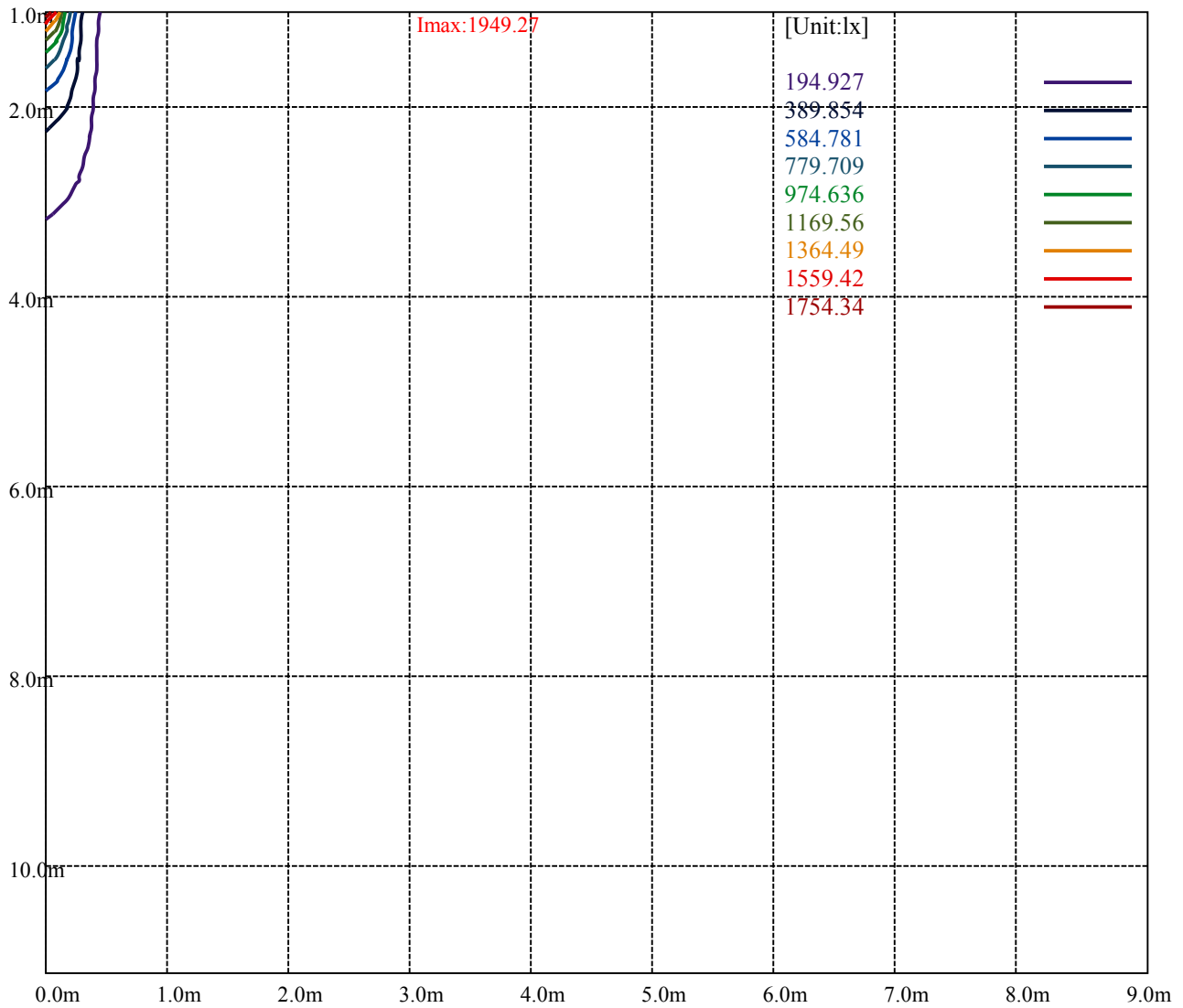
Road

Imax:1949.27

(10%Imax)	194.927	—
(20%Imax)	389.854	—
(30%Imax)	584.781	—
(40%Imax)	779.709	—
(50%Imax)	974.636	—
(60%Imax)	1169.56	—
(70%Imax)	1364.49	—
(80%Imax)	1559.42	—
(90%Imax)	1754.34	—



(10%Emax)	21.65844	
(20%Emax)	43.31689	
(30%Emax)	64.97544	
(40%Emax)	86.63389	
(50%Emax)	108.2923	
(60%Emax)	129.9511	
(70%Emax)	151.6089	
(80%Emax)	173.2678	
(90%Emax)	194.9267	



Luminance Table

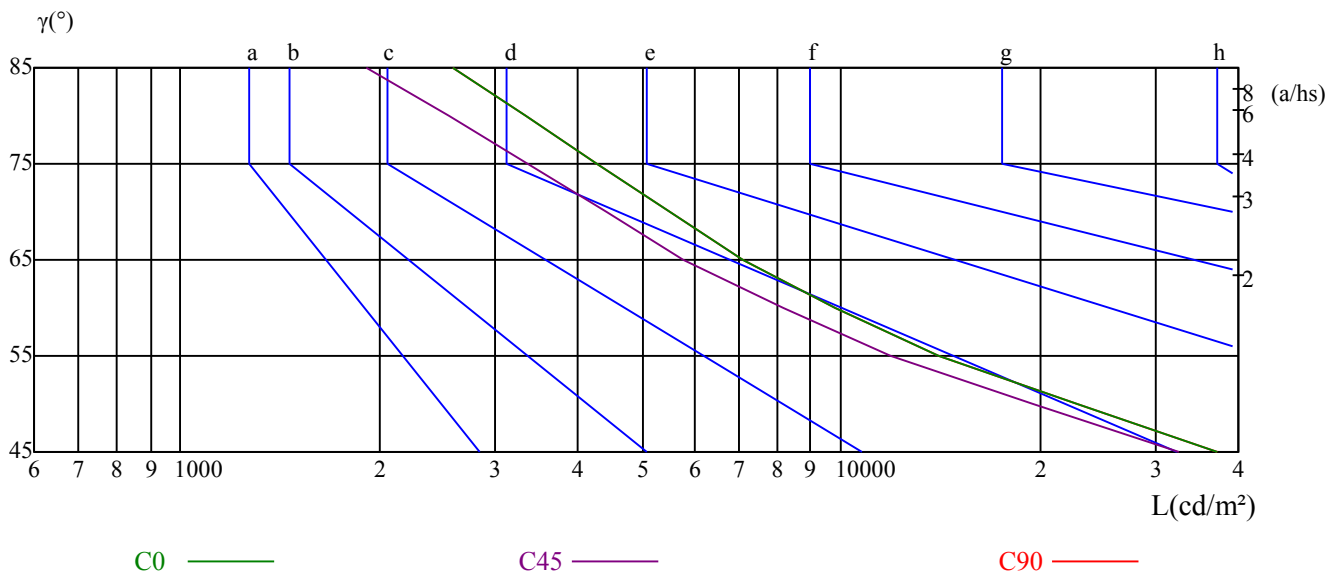
γ	45	50	55	60	65	70	75	80	85
C0	37262	22724	14088	9817	7083	5527	4274	3340	2592
C45	32519	19542	11929	8175	5792	4428	3346	2544	1911
C90	37262	22724	14088	9817	7083	5527	4274	3340	2592

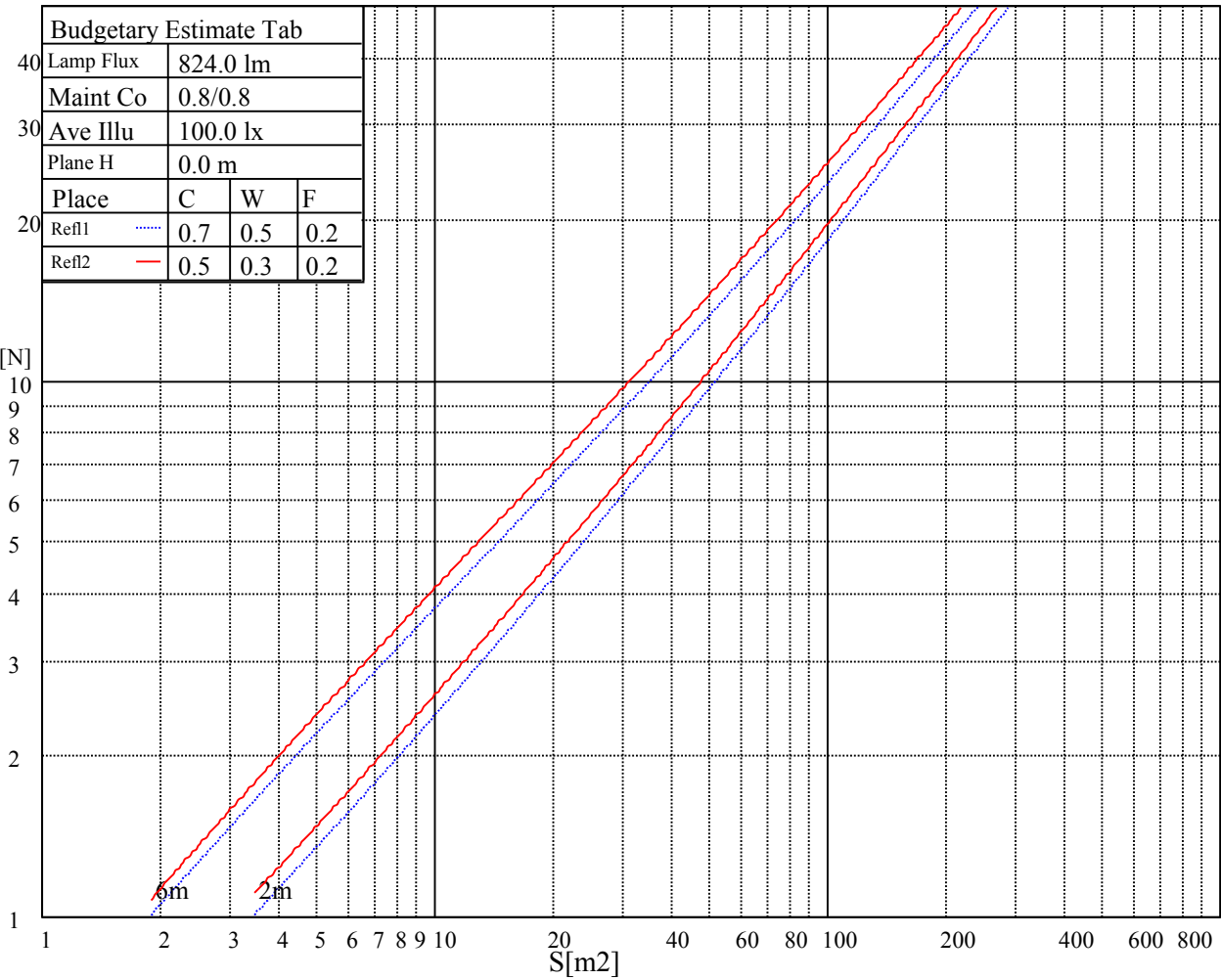
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
15338	15338	15338	12943	12943	12943	18696	18696	18696

Glare Table

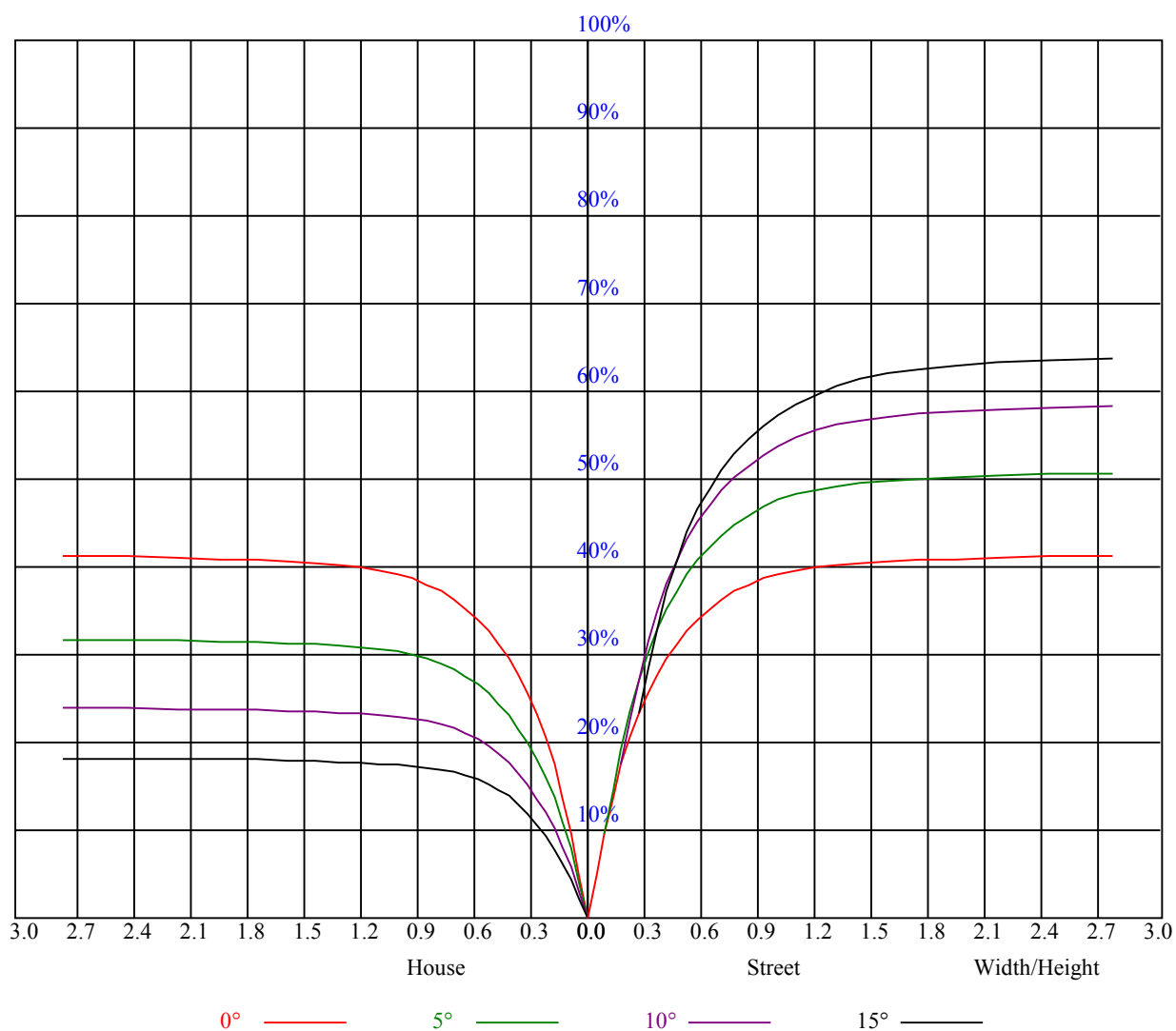
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	≤ 300				
1.5	B		2000	1000	500	≤ 300			
1.85	C			2000	1000	500	≤ 300		
2.2	D				2000	1000	500	≤ 300	
2.55	E					2000	1000	500	≤ 300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





RHOC	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	1.00	1.00	1.00	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.86	0.86	0.86	0.84
1	0.91	0.89	0.86	0.90	0.87	0.85	0.86	0.84	0.82	0.83	0.81	0.80	0.80	0.79	0.78	0.76
2	0.85	0.81	0.78	0.84	0.80	0.77	0.81	0.78	0.75	0.78	0.76	0.74	0.76	0.74	0.72	0.71
3	0.80	0.75	0.72	0.78	0.74	0.71	0.76	0.73	0.70	0.74	0.71	0.69	0.72	0.70	0.68	0.66
4	0.75	0.70	0.66	0.74	0.69	0.66	0.72	0.68	0.65	0.70	0.67	0.64	0.69	0.66	0.64	0.62
5	0.70	0.65	0.62	0.70	0.65	0.62	0.68	0.64	0.61	0.67	0.63	0.60	0.65	0.62	0.60	0.59
6	0.67	0.62	0.58	0.66	0.61	0.58	0.65	0.61	0.57	0.64	0.60	0.57	0.62	0.59	0.57	0.56
7	0.63	0.58	0.55	0.63	0.58	0.55	0.62	0.58	0.54	0.61	0.57	0.54	0.60	0.56	0.54	0.53
8	0.60	0.55	0.52	0.60	0.55	0.52	0.59	0.55	0.52	0.58	0.54	0.52	0.57	0.54	0.51	0.50
9	0.58	0.53	0.50	0.57	0.53	0.50	0.56	0.52	0.49	0.56	0.52	0.49	0.55	0.52	0.49	0.48
10	0.55	0.51	0.48	0.55	0.51	0.48	0.54	0.50	0.47	0.54	0.50	0.47	0.53	0.50	0.47	0.46



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Intensity data(cd)										Appendix Page: 14 Total:14	
C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0		
0.0	1937.99	1700.14	1123.15	623.24	392.55	296.20	241.97	196.00	147.00		
45.0	1950.65	1745.84	1112.14	599.01	392.55	285.74	234.21	192.20	142.10		
90.0	1967.17	1713.91	1052.13	571.65	376.53	286.68	238.12	193.96	142.76		
135.0	1941.29	1776.67	1172.70	638.65	400.26	296.20	242.91	195.56	145.07		
180.0	1937.99	1553.69	986.01	550.67	363.04	275.06	230.14	180.42	128.39		
225.0	1950.65	1568.56	992.61	573.03	375.10	286.02	236.19	188.62	134.28		
270.0	1967.17	1599.94	1026.25	592.41	381.54	288.50	240.10	193.74	139.35		
315.0	1941.29	1487.07	941.41	527.55	351.70	274.79	227.60	179.98	130.48		
360.0	1937.99	1700.14	1123.15	623.24	392.55	296.20	241.97	196.00	147.00		
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	93.60	55.39	33.69	22.08	14.98	10.79	7.71	5.40	3.63		
45.0	88.26	52.74	32.48	21.58	14.76	10.85	7.65	5.29	3.47		
90.0	88.37	52.30	31.99	21.03	13.98	10.35	7.27	5.07	3.47		
135.0	91.67	54.62	32.32	21.80	14.37	10.30	7.32	5.29	3.58		
180.0	80.93	47.84	27.97	18.72	12.61	9.14	6.50	4.57	3.25		
225.0	81.10	48.28	28.30	18.61	12.99	9.41	6.72	4.79	3.41		
270.0	84.90	49.99	28.63	18.77	13.10	9.58	6.88	5.01	3.47		
315.0	79.61	46.25	27.58	18.72	12.94	9.36	6.66	4.68	3.30		
360.0	93.60	55.39	33.69	22.08	14.98	10.79	7.71	5.40	3.63		
C/γ(°)	90.0										
0.0	2.75										
45.0	2.75										
90.0	2.75										
135.0	2.75										
180.0	2.75										
225.0	2.75										
270.0	2.75										
315.0	2.75										
360.0	2.75										