
Nata

LumCAT: 1546-E	
Luminaire: 92.70.043.00	
Report No: NT2017080405	Voltage(V): 38.7000
Test No: GC2017080405	Current(A): 0.3000
LampCAT: SEOUL SAWx06	Power (W): 11.6100
Lamp flux(lm): 1216.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 21	Width(mm): 21
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1087.32
Efficiency(%): 89.42%
Lumens(lm)/Power(W): 93.65
Central intensity(cd): 1656.470
Maximum intensity(cd): 1656.470
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=38.1
[C90/270]Total=38.1
Field angle(10%Imax): [C0/180]Total=89.5
[C90/270]Total=89.5
Maximum s/h(1/2): C0_180=0.59 C90_270=0.59
Maximum s/h(1/4): C0_180=0.69 C90_270=0.69
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.42%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.199%

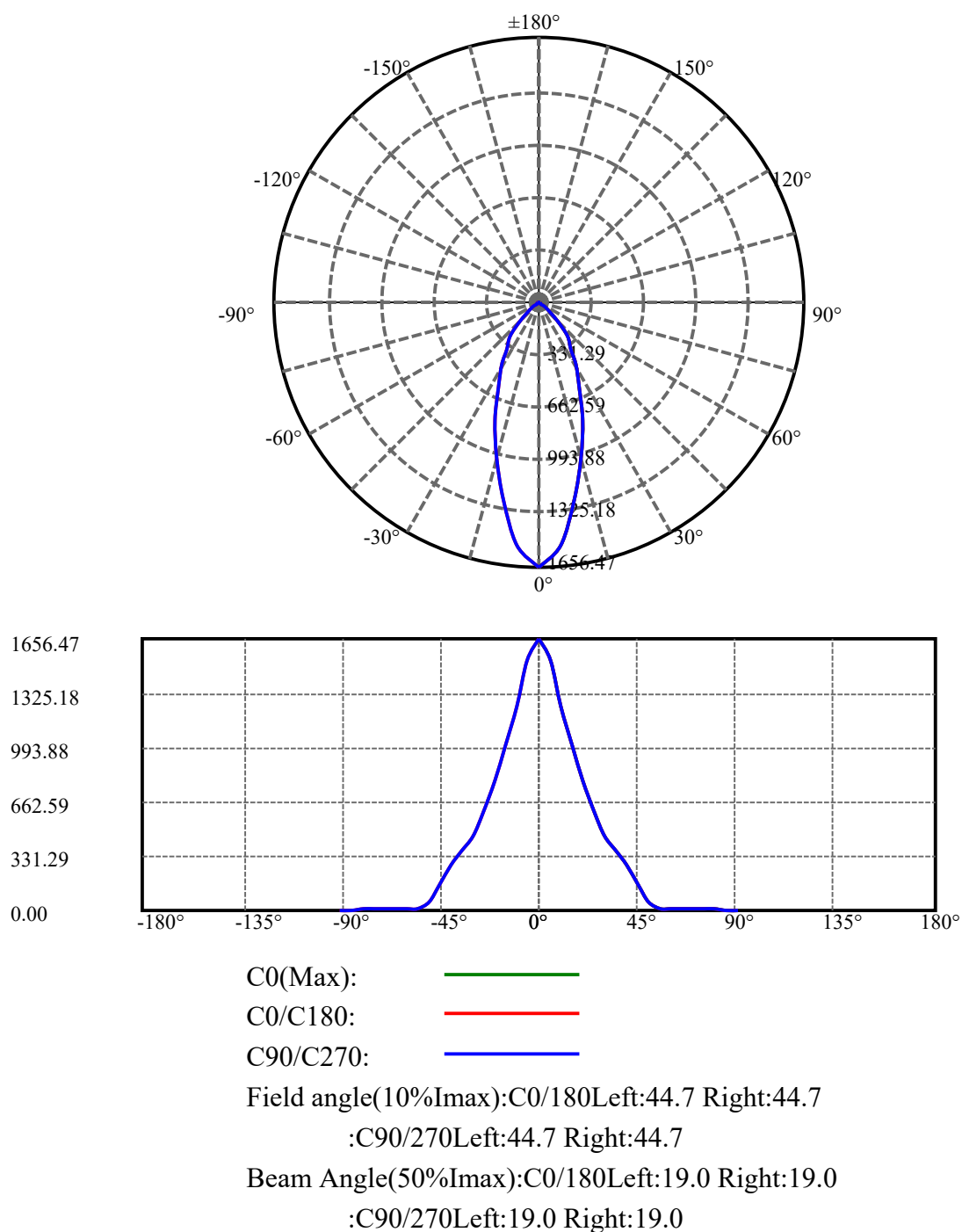
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1656.470	0.000	0	.000%	.000%
5.0	1520.680	37.982	37.982	3.124%	3.493%
10.0	1248.356	99.057	137.039	8.146%	12.603%
15.0	1000.289	133.388	270.427	10.969%	24.871%
20.0	787.414	147.332	417.759	12.116%	38.421%
25.0	596.237	145.120	562.879	11.934%	51.767%
30.0	455.307	133.074	695.952	10.944%	64.006%
35.0	358.508	119.840	815.792	9.855%	75.028%
40.0	278.390	106.262	922.054	8.739%	84.800%
45.0	159.087	81.002	1003.056	6.661%	92.250%
50.0	55.888	43.439	1046.495	3.572%	96.245%
55.0	15.102	15.436	1061.931	1.269%	97.665%
60.0	10.031	5.810	1067.74	.478%	98.199%
65.0	7.854	4.348	1072.088	.358%	98.599%
70.0	6.664	3.676	1075.764	.302%	98.937%
75.0	5.795	3.257	1079.021	.268%	99.236%
80.0	5.523	3.028	1082.049	.249%	99.515%
85.0	4.918	2.837	1084.887	.233%	99.776%
90.0	3.979	2.436	1087.323	.200%	100.000%

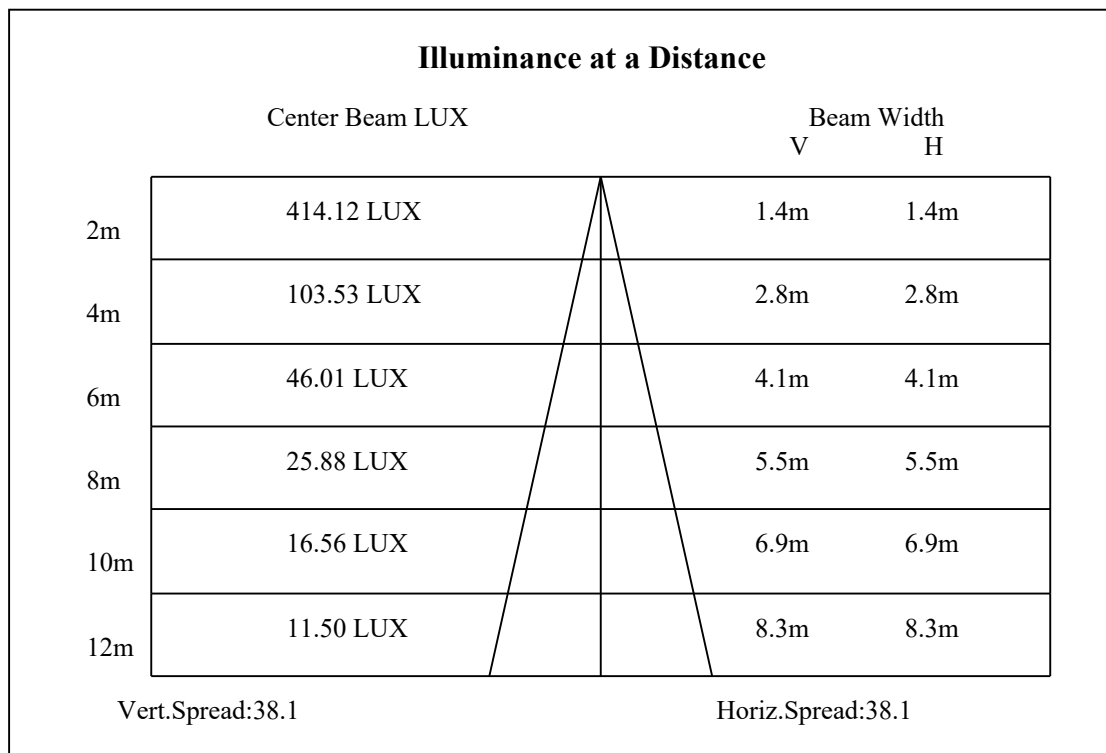
ZONAL LUMEN SUMMARY

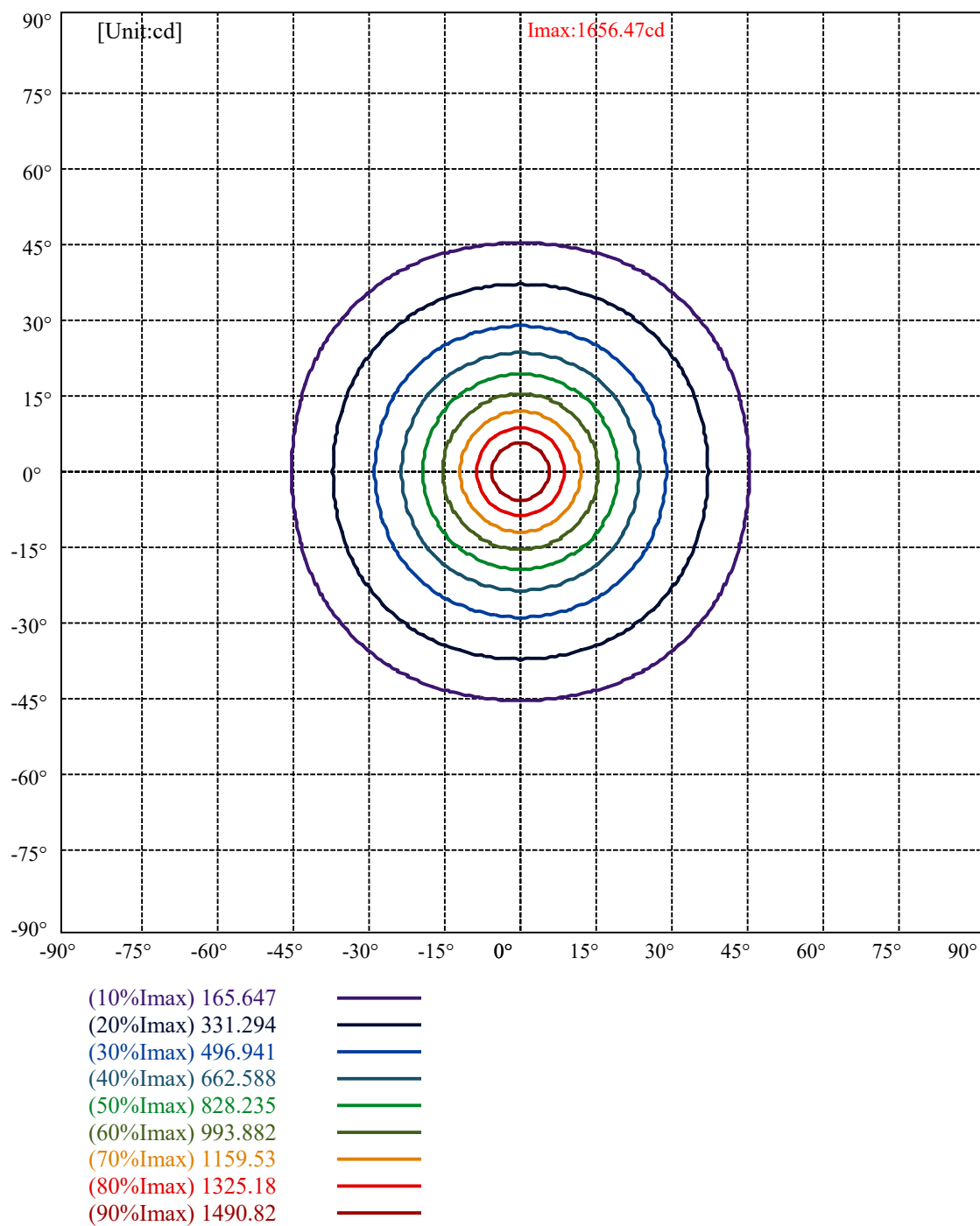
Zone	Lumens	%Lamp	%Fixt
0-30	695.95	57.23%	64.01%
0-40	922.05	75.83%	84.80%
0-60	1067.74	87.81%	98.20%
0-90	1084.89	89.22%	99.78%
0-120	1084.89	89.22%	99.78%
0-180	1087.32	89.42%	100.00%
60-90	22.96	1.89%	2.11%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-37.54	869.86	71.53%	80.00%

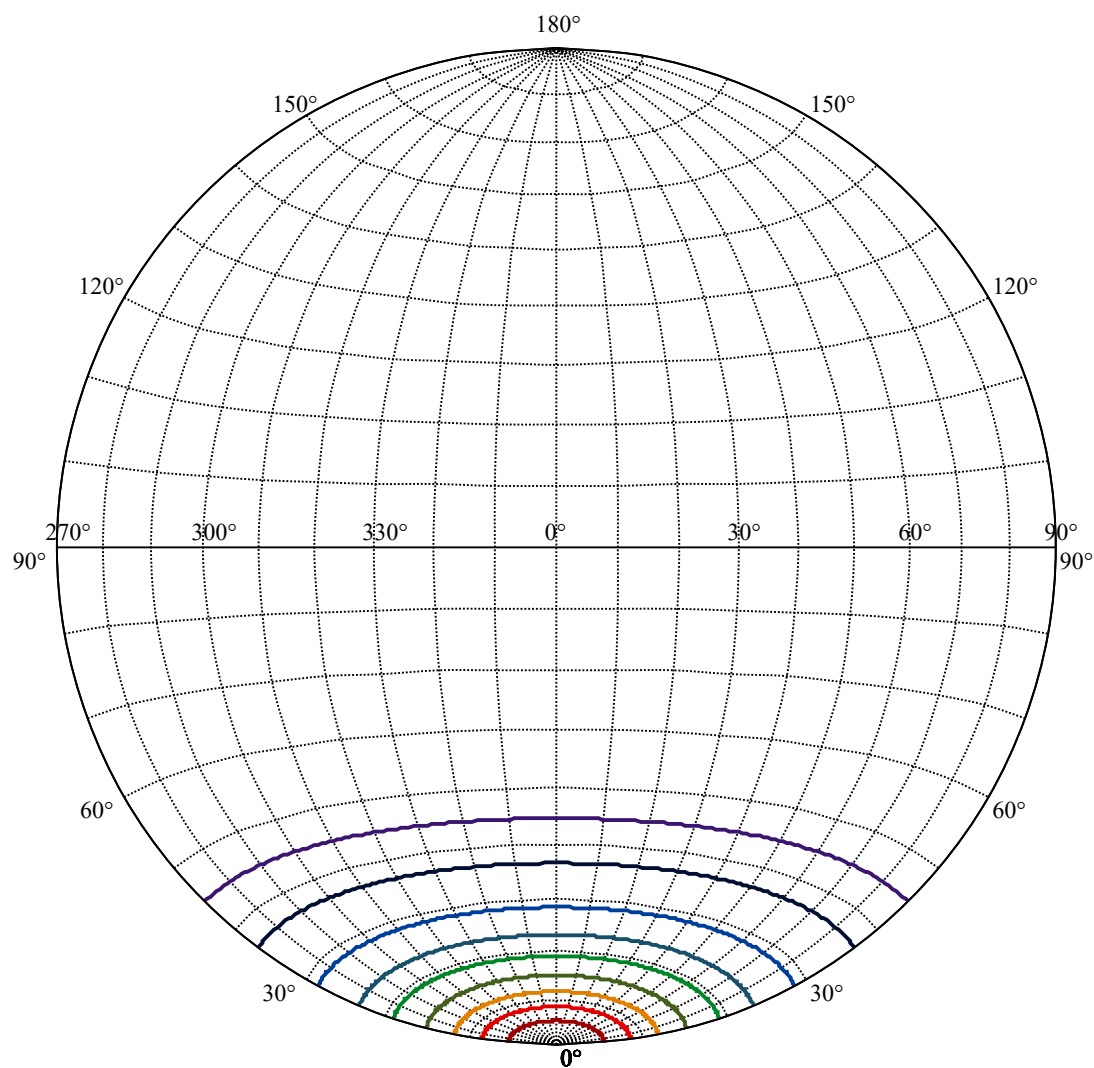
ZONAL LUMEN SUMMARY

0-10	137.04
10-20	280.72
20-30	278.19
30-40	226.10
40-50	124.44
50-60	21.25
60-70	8.02
70-80	6.29
80-90	2.84
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









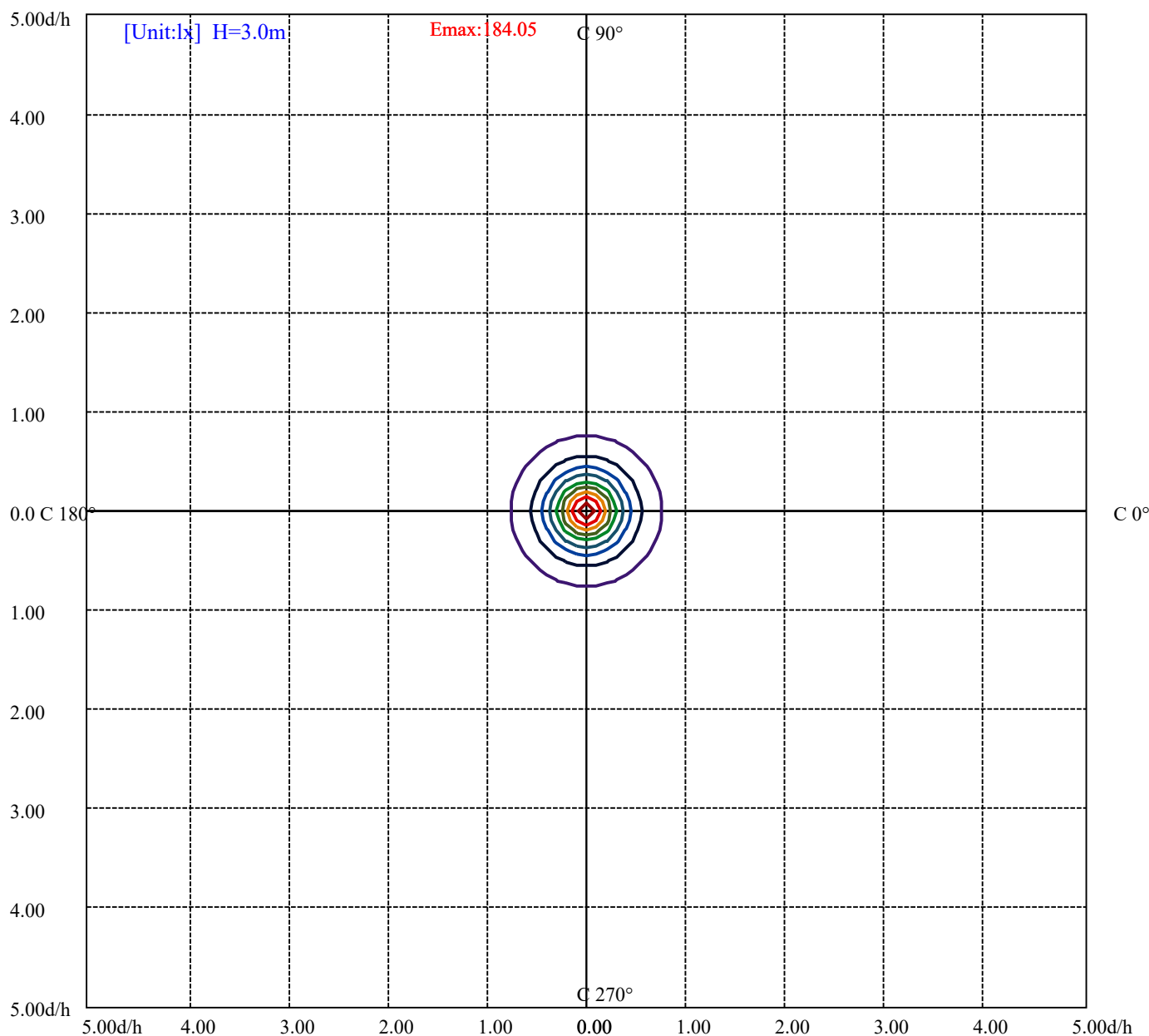
House

[Unit:cd]

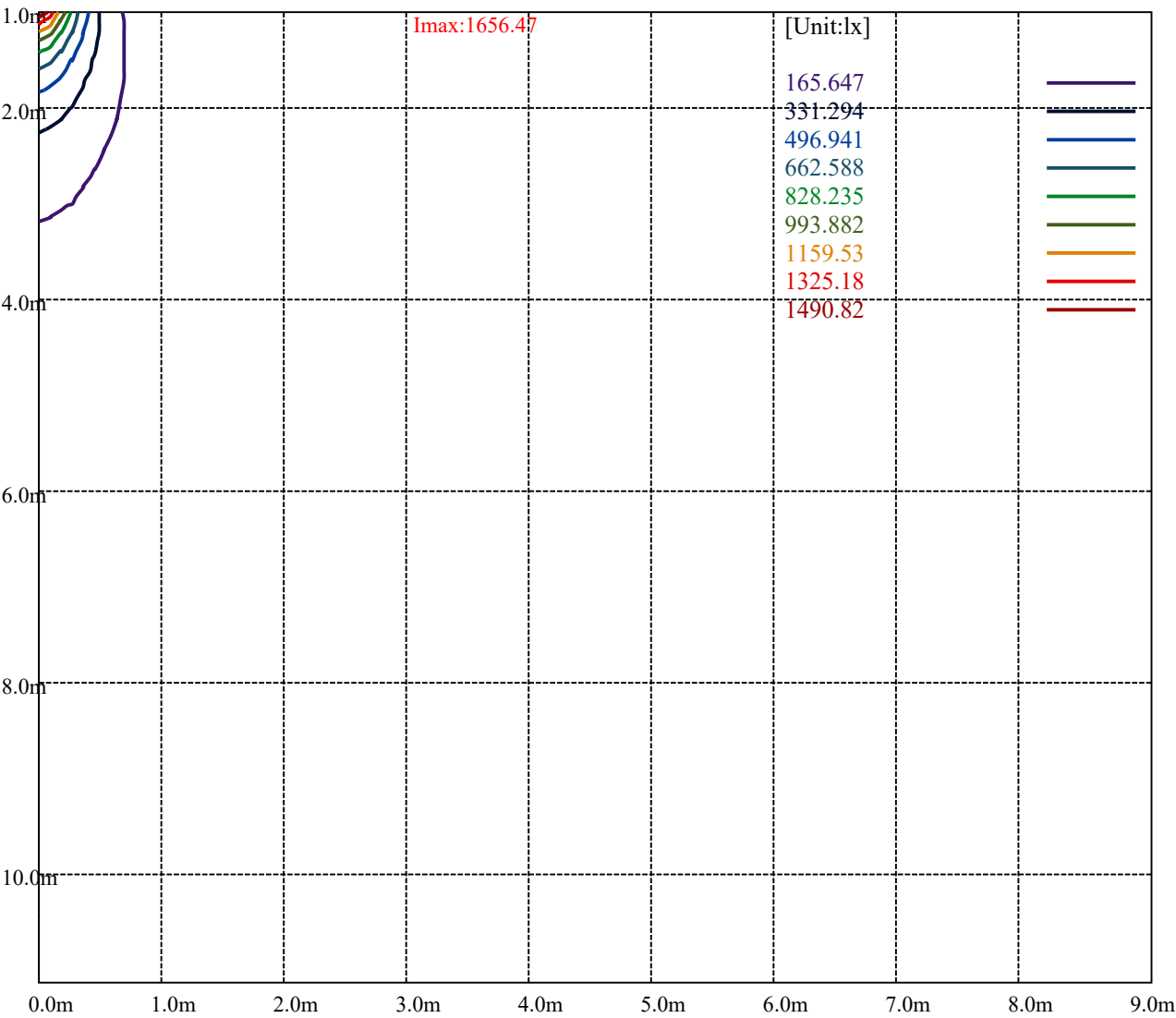
Road

Imax:1656.47

(10%Imax)	165.647	
(20%Imax)	331.294	
(30%Imax)	496.941	
(40%Imax)	662.588	
(50%Imax)	828.235	
(60%Imax)	993.882	
(70%Imax)	1159.53	
(80%Imax)	1325.18	
(90%Imax)	1490.82	



(10%E _{max}) 18.40522	—
(20%E _{max}) 36.81033	—
(30%E _{max}) 55.21556	—
(40%E _{max}) 73.62067	—
(50%E _{max}) 92.02589	—
(60%E _{max}) 110.4311	—
(70%E _{max}) 128.8367	—
(80%E _{max}) 147.2411	—
(90%E _{max}) 165.6467	—



Luminance Table

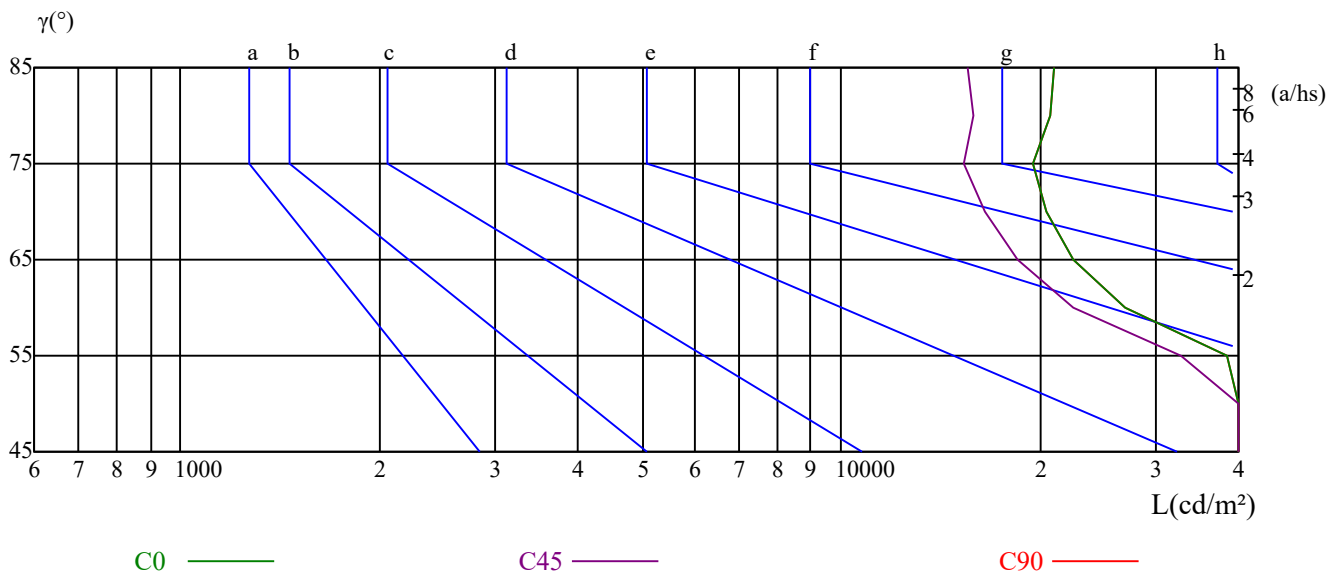
γ	45	50	55	60	65	70	75	80	85
C0	374972	136205	38403	26879	22420	20521	19530	20732	21009
C45	329480	117961	32752	22545	18463	16553	15382	15872	15533
C90	374972	136205	38403	26879	22420	20521	19530	20732	21009

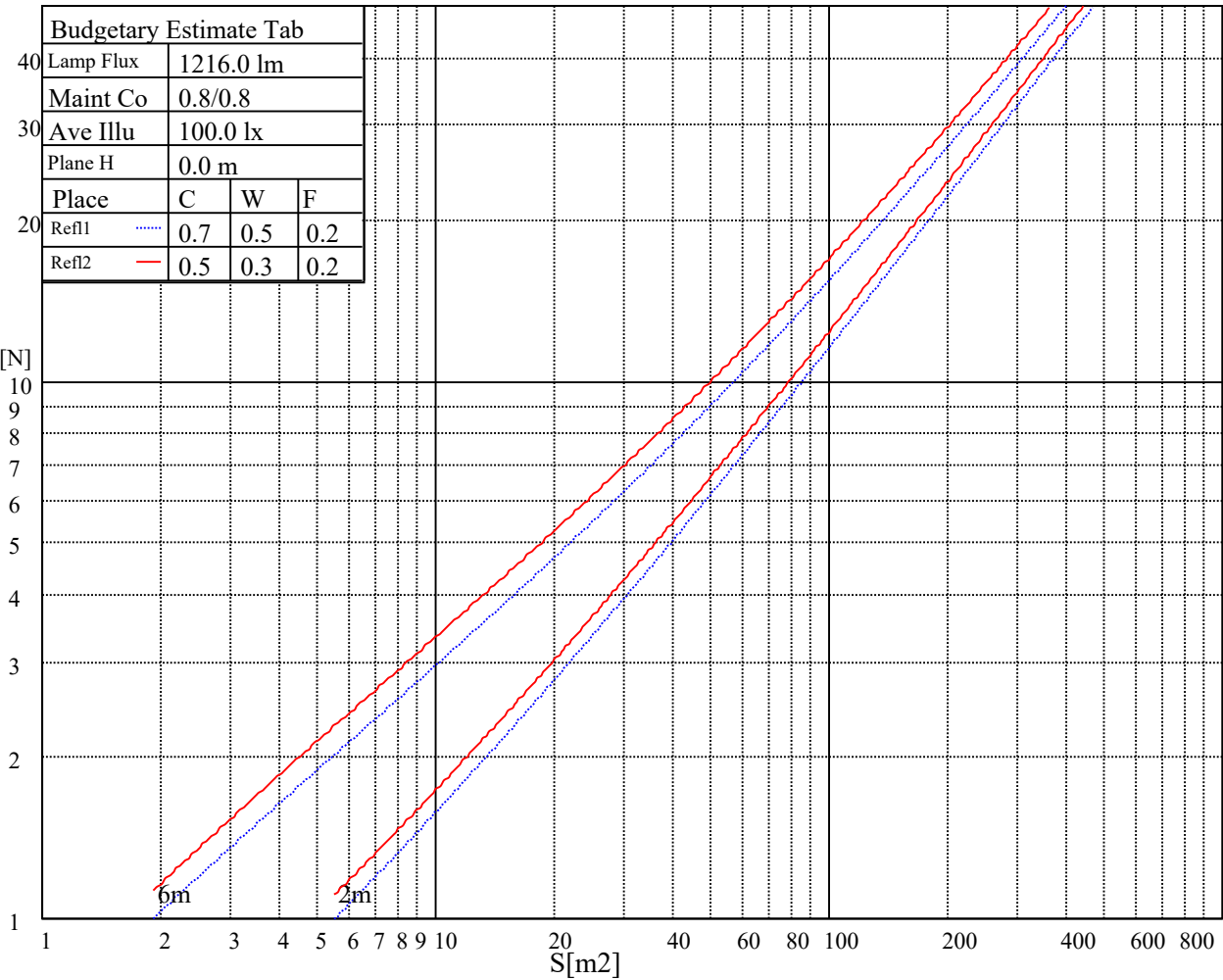
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
46459	46459	46459	55973	55973	55973	141075	141075	141075

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 RHOF=20 CU															
0	1.06	1.06	1.06	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.89
1	0.98	0.96	0.94	0.96	0.94	0.92	0.93	0.91	0.90	0.90	0.88	0.87	0.86	0.85	0.84	0.83
2	0.91	0.87	0.84	0.90	0.86	0.83	0.87	0.84	0.81	0.84	0.82	0.80	0.82	0.80	0.78	0.76
3	0.85	0.80	0.76	0.83	0.79	0.76	0.81	0.77	0.74	0.79	0.76	0.73	0.77	0.74	0.72	0.71
4	0.79	0.74	0.70	0.78	0.73	0.69	0.76	0.72	0.68	0.74	0.70	0.68	0.72	0.69	0.67	0.65
5	0.74	0.68	0.64	0.73	0.68	0.64	0.71	0.67	0.63	0.70	0.66	0.63	0.68	0.65	0.62	0.61
6	0.69	0.63	0.59	0.68	0.63	0.59	0.67	0.62	0.59	0.65	0.61	0.58	0.64	0.61	0.58	0.57
7	0.65	0.59	0.55	0.64	0.59	0.55	0.63	0.58	0.55	0.62	0.58	0.54	0.61	0.57	0.54	0.53
8	0.61	0.55	0.52	0.60	0.55	0.51	0.59	0.55	0.51	0.58	0.54	0.51	0.57	0.54	0.51	0.49
9	0.57	0.52	0.48	0.57	0.52	0.48	0.56	0.51	0.48	0.55	0.51	0.48	0.55	0.51	0.48	0.46
10	0.54	0.49	0.45	0.54	0.49	0.45	0.53	0.48	0.45	0.52	0.48	0.45	0.52	0.48	0.45	0.44

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Intensity data(cd)										Appendix Page: 13 Total:13	
C/ γ (°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0		
0.0	1659.53	1525.97	1301.69	1049.03	830.32	637.77	483.06	382.88	320.00		
45.0	1662.87	1497.58	1246.04	983.92	775.23	600.48	467.47	380.66	296.07		
90.0	1648.40	1461.97	1099.84	910.74	713.84	541.60	421.89	344.71	248.54		
135.0	1655.08	1517.06	1243.81	976.13	747.96	569.87	453.00	338.92	255.05		
180.0	1659.53	1509.27	1189.27	943.63	728.37	551.34	416.22	324.17	232.96		
225.0	1662.87	1550.45	1281.10	1023.27	797.65	591.30	453.73	359.84	284.32		
270.0	1648.40	1576.05	1342.32	1086.88	880.96	665.04	492.52	383.44	306.64		
315.0	1655.08	1527.08	1282.77	1028.72	824.98	612.50	454.56	353.44	283.54		
360.0	1659.53	1525.97	1301.69	1049.03	830.32	637.77	483.06	382.88	320.00		
C/ γ (°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0		
0.0	211.09	81.81	15.25	10.57	8.07	6.96	6.12	5.57	5.29		
45.0	160.17	50.75	13.02	9.57	7.74	6.73	5.95	6.51	6.34		
90.0	119.21	31.61	15.25	8.96	7.46	6.62	5.84	6.46	4.73		
135.0	118.32	38.96	19.37	10.85	8.29	6.85	5.84	5.18	4.40		
180.0	119.71	31.22	13.41	9.52	7.51	6.29	5.40	4.90	4.40		
225.0	168.57	55.04	14.08	10.02	7.96	6.46	5.51	5.01	4.62		
270.0	198.45	90.71	16.53	10.91	7.96	6.62	5.62	5.06	4.62		
315.0	177.19	67.00	13.91	9.85	7.85	6.79	6.07	5.51	4.95		
360.0	211.09	81.81	15.25	10.57	8.07	6.96	6.12	5.57	5.29		
C/ γ (°)	90.0										
0.0	4.06										
45.0	3.95										
90.0	3.95										
135.0	3.95										
180.0	4.01										
225.0	3.95										
270.0	4.01										
315.0	3.95										
360.0	4.06										