



SGSO

Address: LIT by CARDI

Client:

LumCAT: 0017440221 RIO 18W 4000K 1800lm

Luminaire:

Report No:

Voltage(V): 230.0000

Test No: KYZ-A251030009-02-004

Current(A): 0.0810

LampCAT: LED

Power (W): 18.0000

Lamp flux(lm)

PF: 0.9617

Number of Lamps: 1

Ballast type:

Length(mm): -192

Width(mm): -192

Phm Type: C

Height(mm): 0

Photometric Results

Lumens(lm): 1800.00

Lumens(lm)/Power(W): 100.00

Central intensity(cd): 909.811

Maximum intensity(cd): 914.931

Angle of maximum intensity: $C=135.0$ $\gamma=5.0$

Beam Angle(50%Imax): [C0/180]Total=84.5

[C90/270]Total=85.0

Field angle(10%Imax): [C0/180]Total=143.2

[C90/270]Total=143.8

Maximum s/h(1/2): C0_180=1.15 C90_270=1.13

Maximum s/h(1/4): C0_180=1.20 C90_270=1.16

Up flux rate of LUM(%): 0.55%

Down flux rate of LUM(%): 99.45%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 87.252%

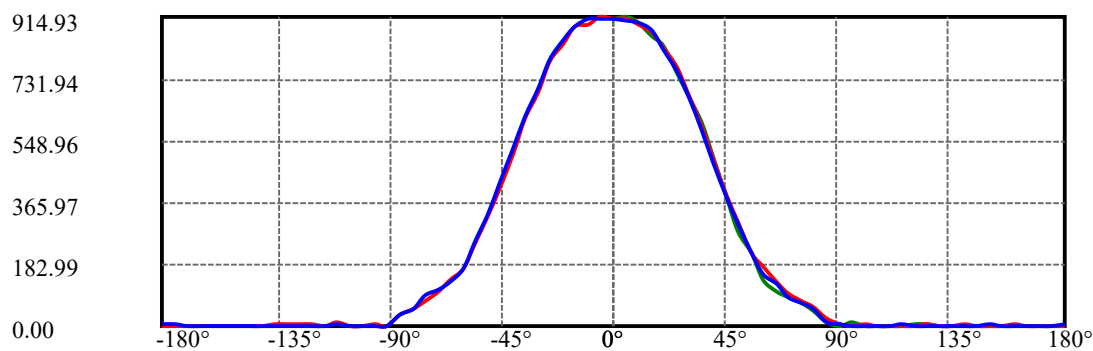
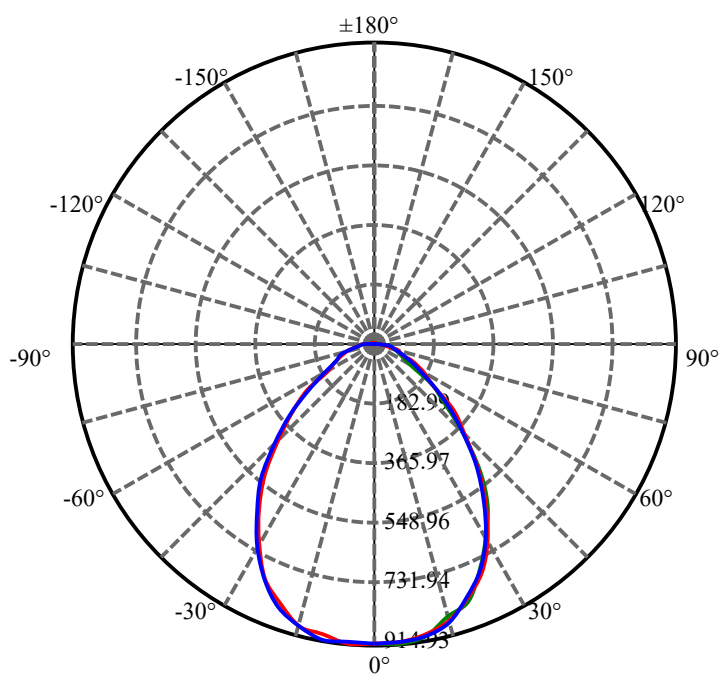
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	1060.267	0.000	0	.000%	.000%
5.0	1060.747	21.749	21.749	1.208%	1.208%
10.0	1046.465	64.659	86.408	3.592%	4.800%
15.0	1020.299	105.159	191.567	5.842%	10.643%
20.0	969.940	140.692	332.259	7.816%	18.459%
25.0	899.490	168.178	500.437	9.343%	27.802%
30.0	807.031	185.241	685.678	10.291%	38.093%
35.0	701.569	190.551	876.229	10.586%	48.680%
40.0	589.073	184.703	1060.932	10.261%	58.941%
45.0	460.856	166.749	1227.682	9.264%	68.205%
50.0	350.331	140.596	1368.278	7.811%	76.016%
55.0	260.217	113.870	1482.147	6.326%	82.342%
60.0	185.611	88.393	1570.54	4.911%	87.252%
65.0	138.662	67.618	1638.158	3.757%	91.009%
70.0	108.180	53.611	1691.769	2.978%	93.987%
75.0	82.121	42.666	1734.434	2.370%	96.358%
80.0	55.742	31.641	1766.075	1.758%	98.115%
85.0	22.808	18.308	1784.383	1.017%	99.133%
90.0	1.652	5.745	1790.128	.319%	99.452%
95.0	2.878	1.064	1791.192	.059%	99.511%
100.0	0.799	0.857	1792.049	.048%	99.558%
105.0	0.799	0.367	1792.416	.020%	99.579%
110.0	2.824	0.812	1793.228	.045%	99.624%
115.0	0.959	0.822	1794.05	.046%	99.670%
120.0	2.078	0.633	1794.683	.035%	99.705%
125.0	3.198	1.046	1795.729	.058%	99.763%
130.0	1.279	0.835	1796.564	.046%	99.809%
135.0	1.599	0.499	1797.063	.028%	99.837%
140.0	1.759	0.533	1797.596	.030%	99.867%
145.0	0.746	0.358	1797.955	.020%	99.887%
150.0	3.517	0.538	1798.493	.030%	99.916%
155.0	2.878	0.694	1799.187	.039%	99.955%
160.0	1.812	0.422	1799.609	.023%	99.978%
165.0	0.853	0.188	1799.797	.010%	99.989%
170.0	0.959	0.092	1799.89	.005%	99.994%
175.0	1.386	0.072	1799.962	.004%	99.998%
180.0	2.025	0.035	1799.997	.002%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixt
0-30	685.68	38.09%
0-40	1060.93	58.94%
0-60	1570.54	87.25%
0-90	1790.13	99.45%
0-120	1794.68	99.70%
0-180	1800.00	100.00%
60-90	307.98	17.11%
90-120	10.30	0.57%
90-130	12.18	0.68%
90-150	14.11	0.78%
90-180	15.58	0.87%
0-53.15	1440.00	80.00%

ZONAL LUMEN SUMMARY

0-10	86.41
10-20	245.85
20-30	353.42
30-40	375.25
40-50	307.35
50-60	202.26
60-70	121.23
70-80	74.31
80-90	24.05
90-100	1.92
100-110	1.18
110-120	1.46
120-130	1.88
130-140	1.03
140-150	0.90
150-160	1.12
160-170	0.28
170-180	0.07



C135(Max): —————

C0/C180: —————

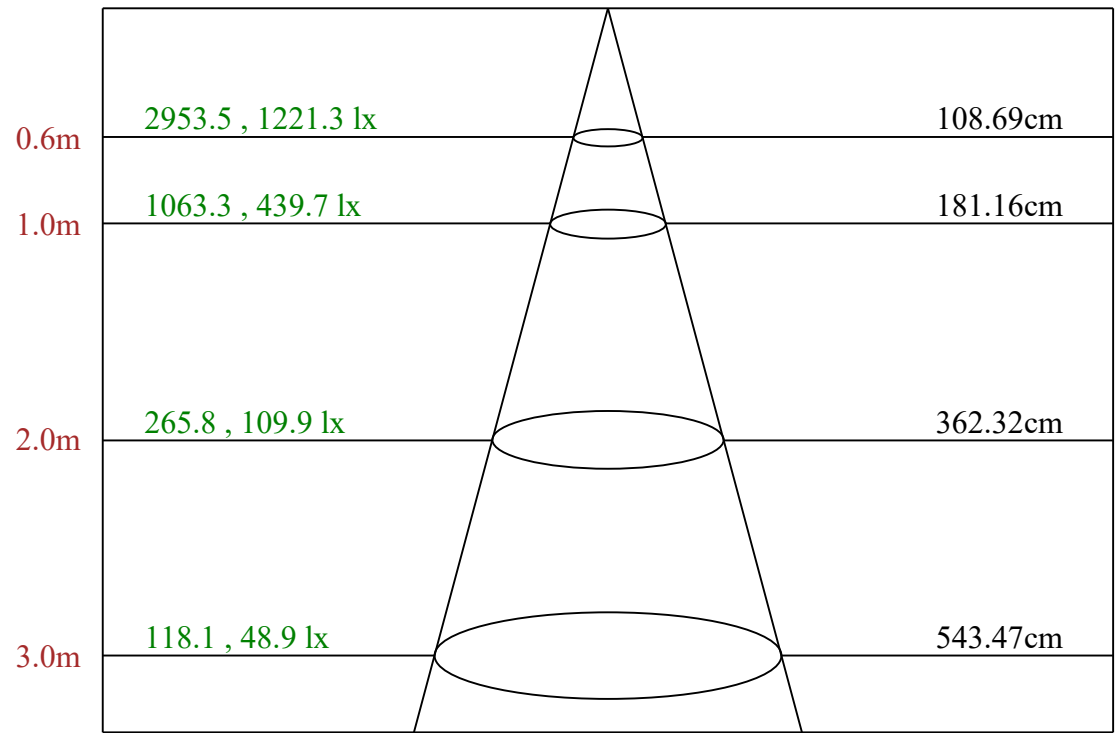
C90/C270: —————

Field angle(10%I_{max}):C0/180Left:67.3 Right:75.9

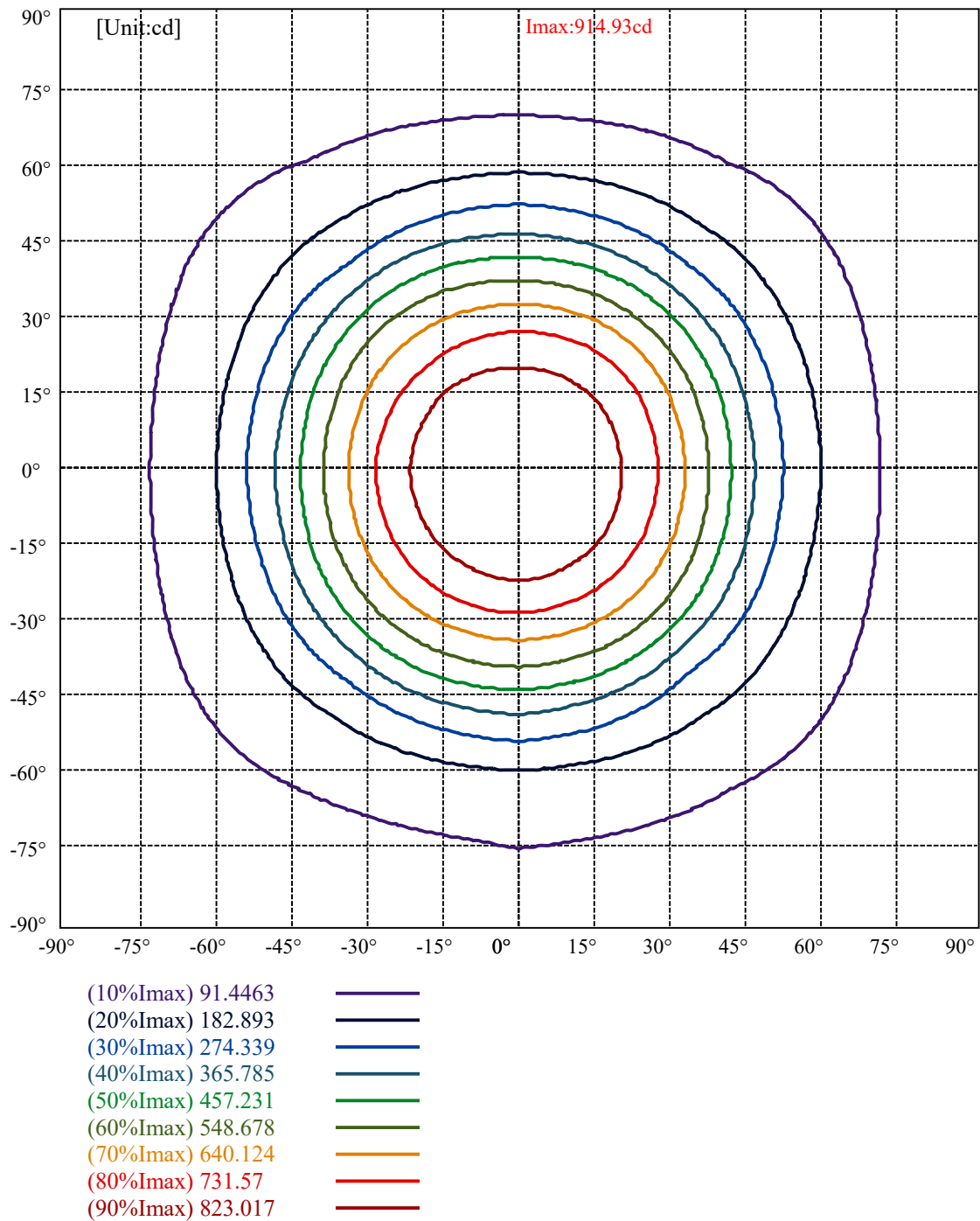
:C90/270Left:74.7 Right:69.1

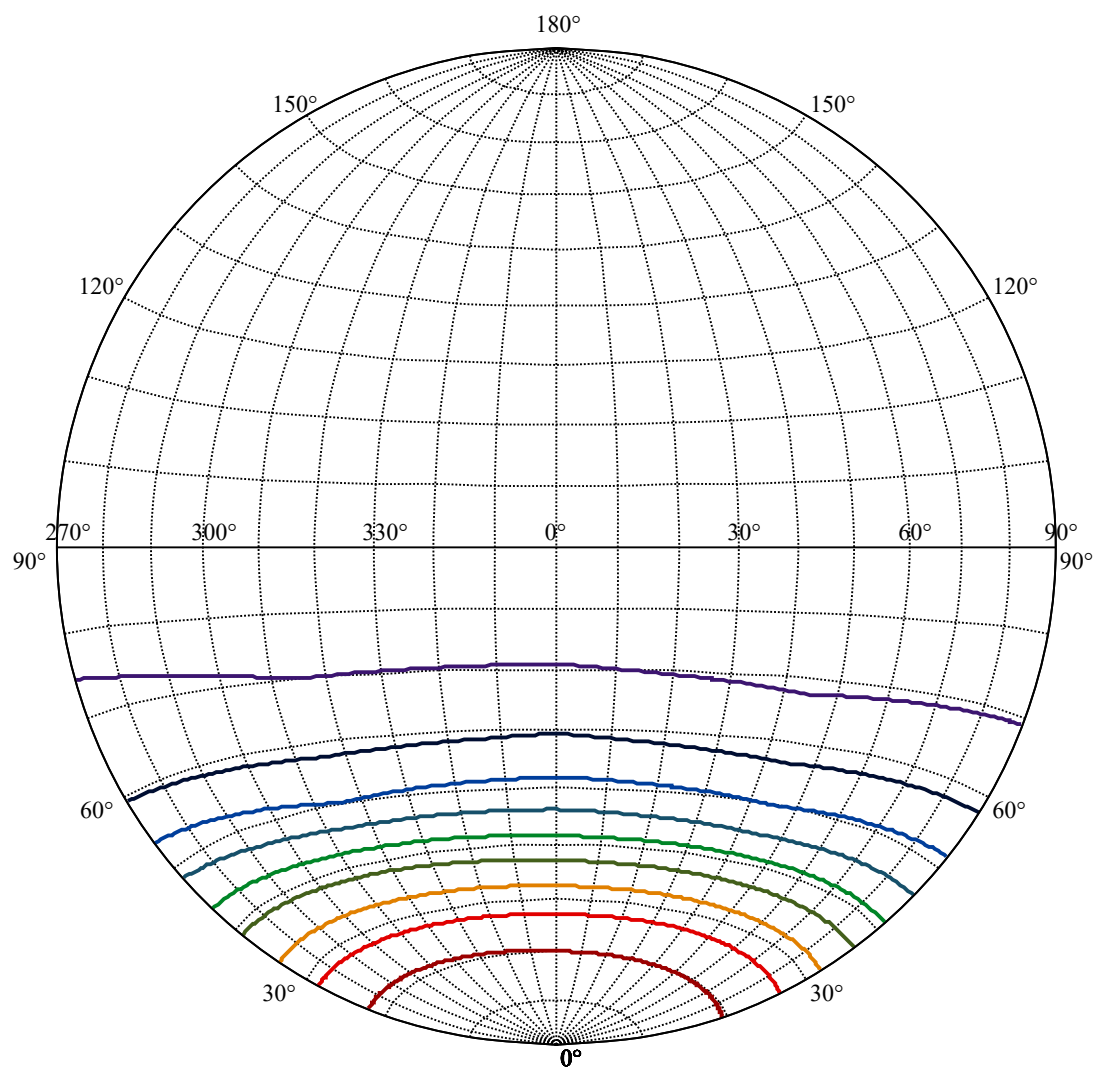
Beam Angle(50%I_{max}):C0/180Left:37.8 Right:46.7

:C90/270Left:43.7 Right:41.3



Max , Ave Beam angle of C135 plane 84.34





House

[Unit:cd]

Road

Imax:914.93

(10%Imax) 78.47834

(20%Imax) 156.9565

(30%Imax) 235.4348

(40%Imax) 313.913

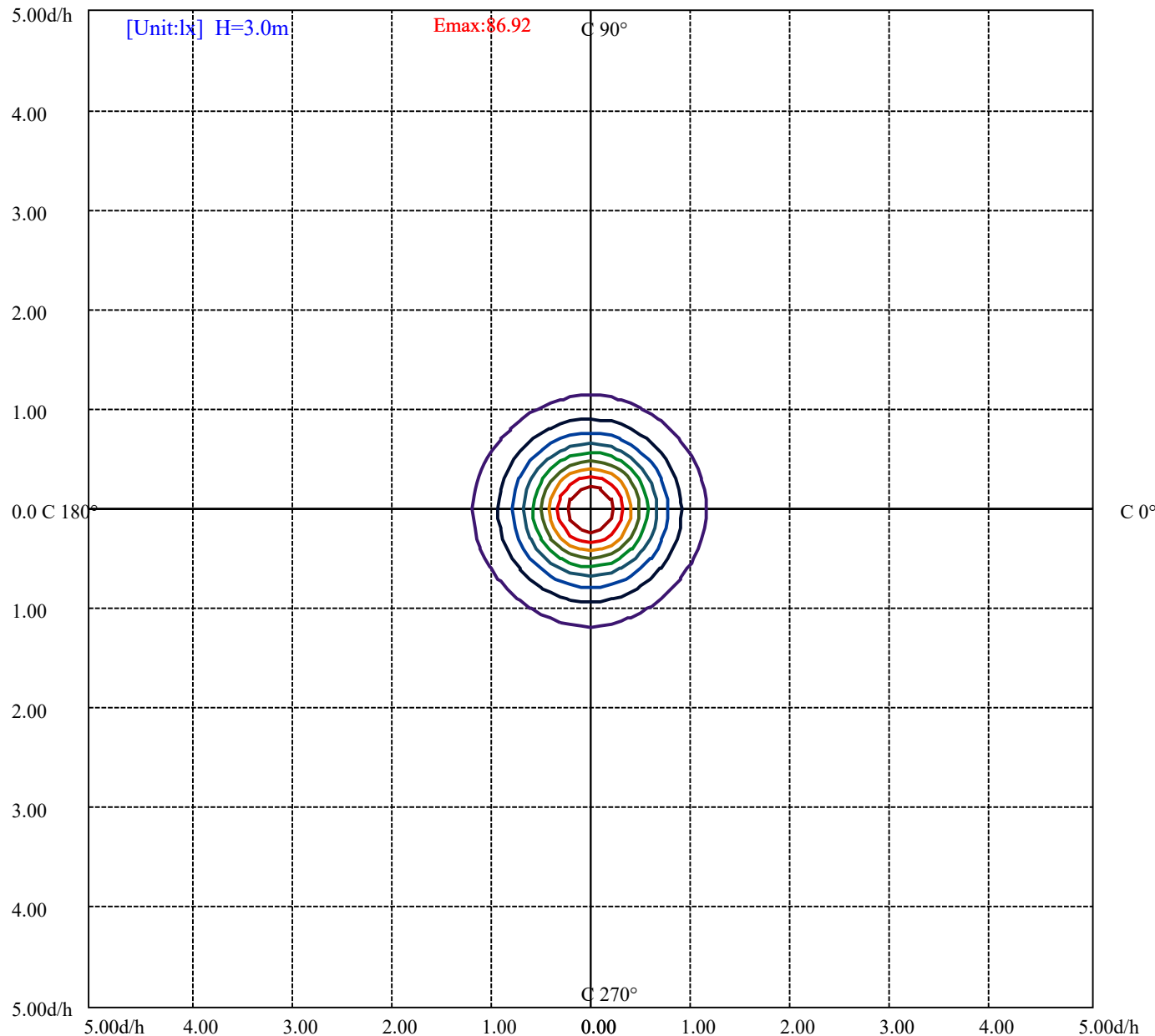
(50%Imax) 392.3913

(60%Imax) 470.8695

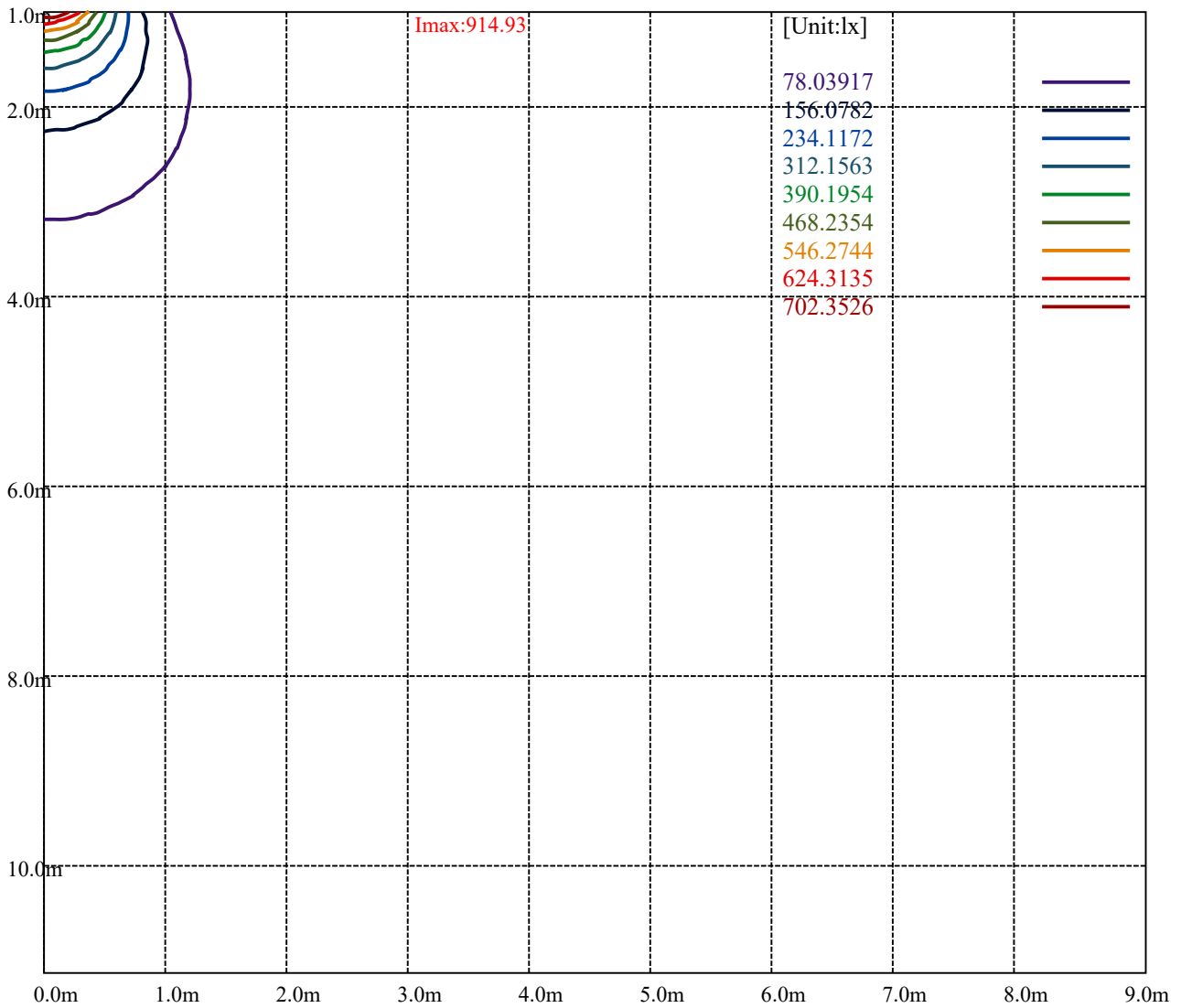
(70%Imax) 549.3486

(80%Imax) 627.8269

(90%Imax) 706.3051

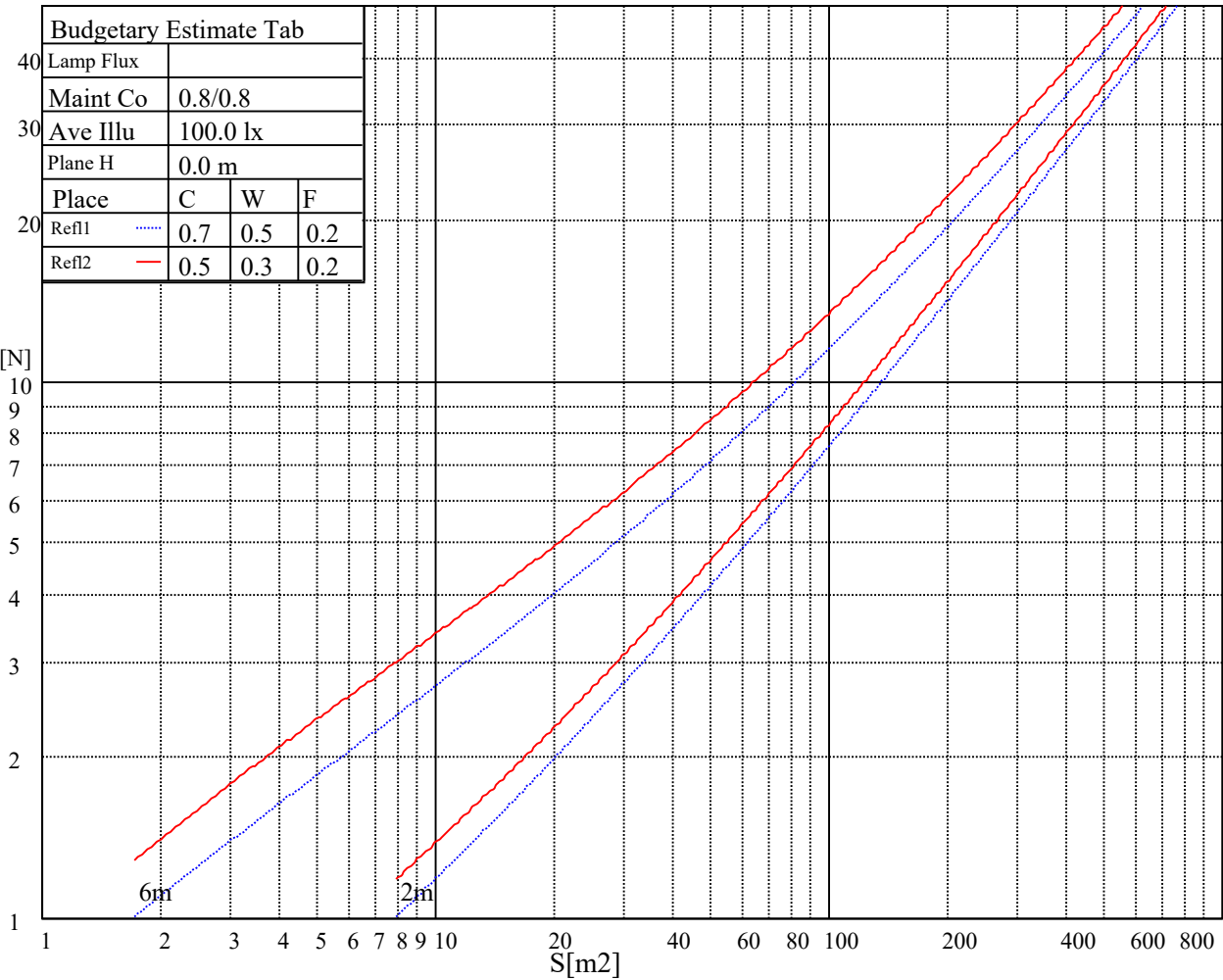


(10%Emax)	8.691929	—
(20%Emax)	17.38386	—
(30%Emax)	26.07574	—
(40%Emax)	34.76772	—
(50%Emax)	43.45959	—
(60%Emax)	52.15157	—
(70%Emax)	60.84346	—
(80%Emax)	69.53543	—
(90%Emax)	78.22731	—

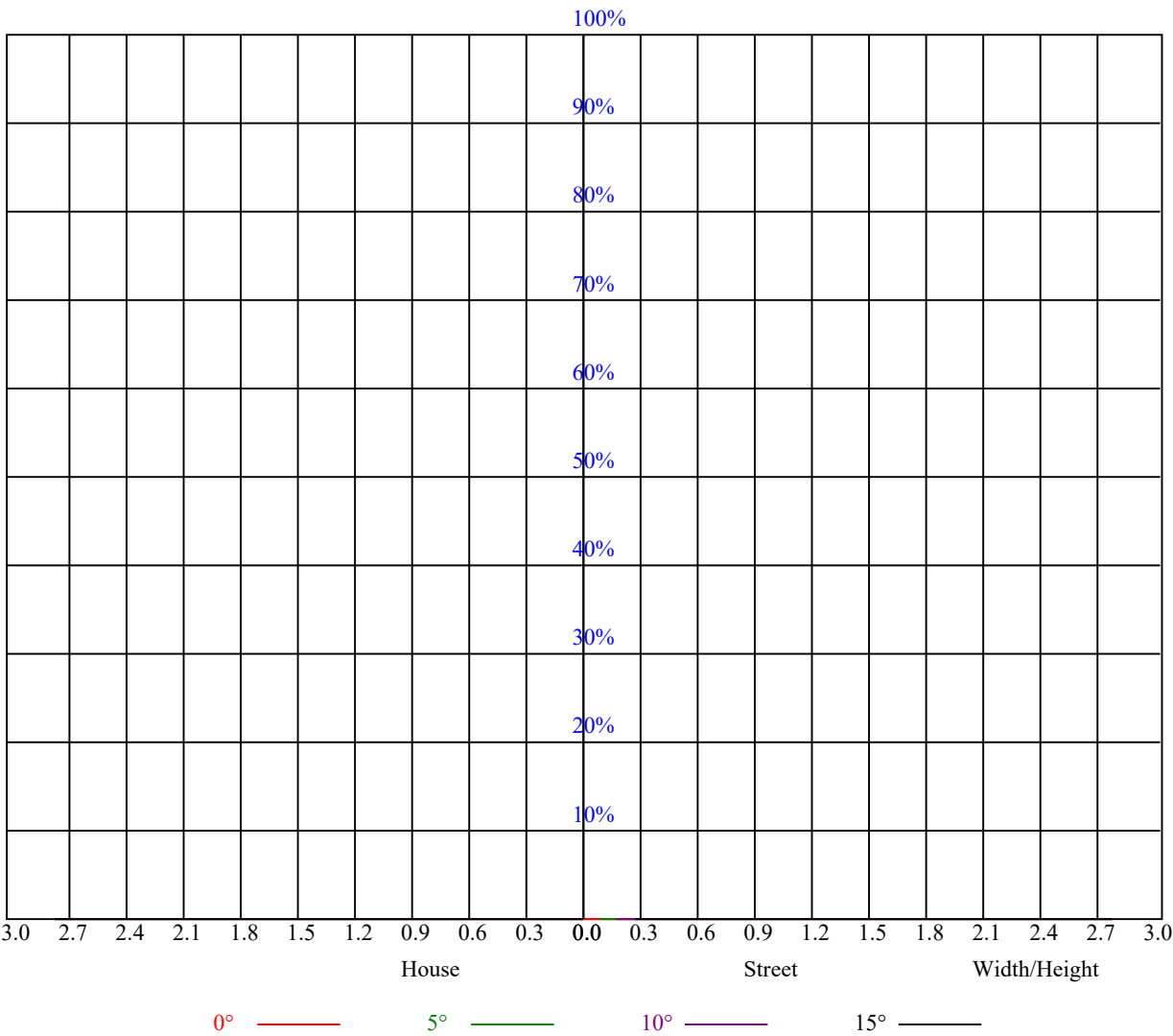


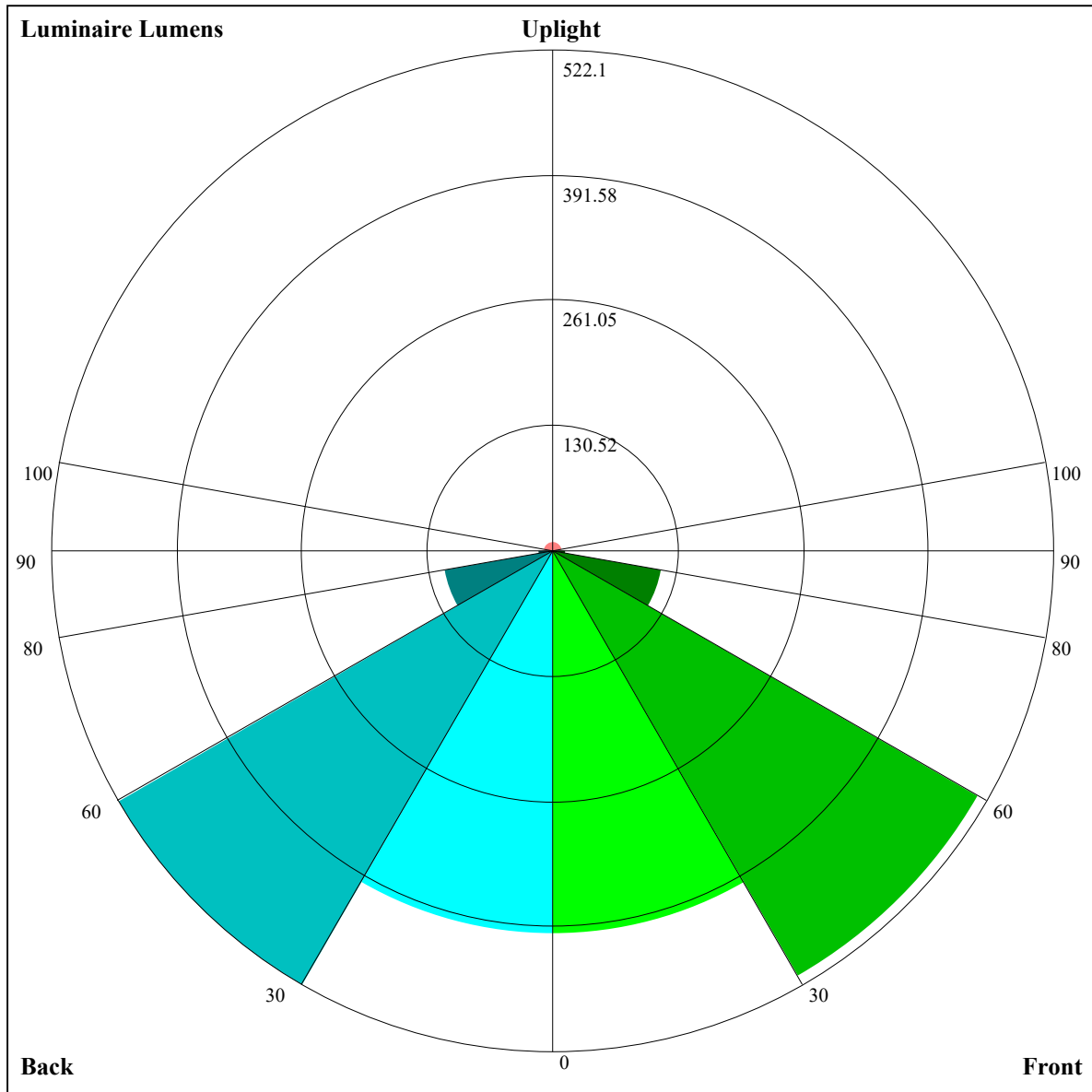
Illumination assessment according UGR											
Rf of Ceiling		70	70	50	50	30	70	70	50	50	30
Rf of Wall		50	30	50	30	30	50	30	50	30	30
Rf of Floor		20	20	20	20	20	20	20	20	20	20
Room dimensions		Viewed crosswise					Viewed endwise				
X	Y										
2H	2H	16.99	18.42	17.35	18.75	19.08	16.80	18.24	17.17	18.57	18.89
	3H	17.98	19.28	18.38	19.63	19.98	17.73	19.02	18.12	19.37	19.73
	4H	18.46	19.67	18.86	20.03	20.40	18.17	19.37	18.57	19.74	20.11
	6H	18.98	20.10	19.40	20.48	20.89	18.64	19.76	19.05	20.14	20.54
	8H	19.16	20.23	19.58	20.62	21.04	18.76	19.83	19.18	20.22	20.64
	12H	19.24	20.27	19.67	20.67	21.09	18.76	19.79	19.19	20.19	20.62
4H	2H	17.28	18.49	17.69	18.85	19.23	17.13	18.33	17.53	18.70	19.07
	3H	18.45	19.47	18.88	19.87	20.29	18.22	19.24	18.65	19.64	20.06
	4H	19.11	20.01	19.56	20.44	20.89	18.85	19.74	19.29	20.17	20.62
	6H	19.76	20.55	20.23	21.01	21.46	19.43	20.22	19.90	20.68	21.14
	8H	20.02	20.76	20.50	21.22	21.70	19.62	20.36	20.10	20.82	21.30
	12H	20.16	20.85	20.65	21.31	21.83	19.67	20.36	20.16	20.81	21.33
8H	4H	19.26	20.01	19.75	20.47	20.95	19.02	19.77	19.50	20.22	20.70
	6H	20.03	20.65	20.53	21.13	21.65	19.72	20.34	20.22	20.82	21.34
	8H	20.40	20.94	20.93	21.46	21.97	20.01	20.55	20.54	21.07	21.58
	12H	20.58	21.04	21.11	21.56	22.08	20.08	20.53	20.61	21.05	21.57
12H	4H	19.28	19.97	19.77	20.42	20.94	19.04	19.73	19.53	20.19	20.71
	6H	20.10	20.64	20.63	21.16	21.67	19.80	20.34	20.33	20.87	21.37
	8H	20.44	20.90	20.98	21.42	21.94	20.06	20.52	20.60	21.04	21.56
Variation with the observer position at spacings:											
S = 1.0H		0.3/-0.7					0.3/-0.7				
S = 1.5H		0.9/-1.2					0.8/-1.0				
S = 2.0H		1.9/-1.2					1.6/-1.1				
Standard tables:		BK3					BK3				
Uncorrected UGR		4.8					5.1				

UGR calculation is based on CIE Publ. 117 ,S/H = 0.25



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	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	0.99
1	1.06	1.02	0.99	1.04	1.00	0.97	1.00	0.97	0.94	0.96	0.93	0.91	0.92	0.90	0.89	0.87
2	0.95	0.89	0.84	0.93	0.87	0.83	0.89	0.85	0.81	0.86	0.82	0.79	0.83	0.80	0.77	0.75
3	0.85	0.78	0.72	0.83	0.77	0.71	0.80	0.75	0.70	0.78	0.73	0.69	0.75	0.71	0.68	0.66
4	0.76	0.69	0.63	0.75	0.68	0.62	0.73	0.66	0.61	0.70	0.65	0.61	0.68	0.64	0.60	0.58
5	0.69	0.61	0.55	0.68	0.61	0.55	0.66	0.59	0.54	0.64	0.58	0.54	0.62	0.57	0.53	0.51
6	0.63	0.55	0.49	0.62	0.55	0.49	0.60	0.54	0.49	0.59	0.53	0.48	0.57	0.52	0.48	0.46
7	0.58	0.50	0.44	0.57	0.50	0.44	0.56	0.49	0.44	0.54	0.48	0.44	0.53	0.47	0.43	0.41
8	0.53	0.45	0.40	0.53	0.45	0.40	0.51	0.45	0.40	0.50	0.44	0.40	0.49	0.43	0.39	0.38
9	0.49	0.42	0.37	0.49	0.41	0.36	0.48	0.41	0.36	0.46	0.40	0.36	0.45	0.40	0.36	0.34
10	0.46	0.38	0.34	0.45	0.38	0.33	0.44	0.38	0.33	0.43	0.37	0.33	0.42	0.37	0.33	0.31





Luminaire Lumens:

FL=398.79,FM=511.24,FH=114.6,FVH=13.08

BL=399.91,BM=522.1,BH=115.67,BVH=15.22

UL=2.24,UH=9.26

BUG Rating:B1-U1-G1

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	909.81	906.52	894.45	867.03	823.51	765.73	688.94	593.50	492.21
45.0	912.01	910.18	895.18	874.71	822.05	764.64	688.57	581.80	484.53
90.0	909.08	905.79	898.47	873.24	817.66	756.59	679.80	580.33	481.60
135.0	906.89	914.93	896.65	858.25	830.46	752.20	679.43	600.45	499.88
180.0	909.81	912.37	892.99	886.04	835.21	785.85	695.52	612.51	514.15
225.0	912.01	912.37	897.38	882.02	841.43	778.90	706.13	615.80	524.75
270.0	909.08	906.52	908.35	885.31	848.01	789.87	705.40	618.73	531.33
315.0	906.89	910.18	897.38	874.71	837.41	778.53	694.06	611.05	513.78
360.0	909.81	906.52	894.45	867.03	823.51	765.73	688.94	593.50	492.21
C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	385.79	308.63	216.85	177.72	127.99	95.81	71.31	54.85	20.11
45.0	366.78	273.53	201.49	149.20	104.95	78.99	61.07	39.13	3.29
90.0	378.11	299.86	218.68	154.68	123.97	84.11	66.19	48.64	9.14
135.0	382.50	275.72	216.85	137.86	104.22	82.64	66.55	47.90	13.90
180.0	411.39	330.21	246.47	171.50	136.03	104.58	75.70	48.64	32.91
225.0	417.24	302.05	215.75	158.70	115.19	95.81	58.51	46.81	28.52
270.0	427.48	336.43	249.76	171.87	127.99	108.61	89.96	50.10	31.45
315.0	393.11	277.55	219.77	152.12	111.17	91.79	74.23	46.44	17.19
360.0	385.79	308.63	216.85	177.72	127.99	95.81	71.31	54.85	20.11
C/γ(°)	90.0	95.0	100.0	105.0	110.0	115.0	120.0	125.0	130.0
0.0	5.12	2.19	4.02	0.00	0.00	0.00	2.56	4.75	0.00
45.0	0.37	0.00	0.00	3.29	0.00	2.56	0.00	3.66	0.00
90.0	5.49	0.37	1.46	0.00	0.37	4.02	0.00	0.00	0.37
135.0	0.00	8.78	0.00	2.19	0.00	0.00	6.22	6.22	2.19
180.0	0.00	4.39	0.00	0.00	9.51	0.00	5.12	5.49	5.85
225.0	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37
270.0	0.00	0.00	0.00	0.00	5.12	0.00	0.00	0.00	0.00
315.0	0.00	4.02	0.00	0.00	4.39	0.00	0.37	1.83	0.00
360.0	5.12	2.19	4.02	0.00	0.00	0.00	2.56	4.75	0.00
C/γ(°)	135.0	140.0	145.0	150.0	155.0	160.0	165.0	170.0	175.0
0.0	0.00	4.75	0.00	0.00	2.19	2.93	0.73	0.00	0.00
45.0	4.39	4.02	5.12	2.56	0.00	0.00	0.00	6.58	2.19
90.0	0.00	0.00	0.00	3.66	0.00	1.10	0.00	0.00	0.00
135.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.0	5.85	0.00	0.00	0.00	0.00	0.00	2.19	0.00	0.00
225.0	0.73	2.19	0.00	5.49	8.78	0.00	2.19	0.00	2.19
270.0	0.00	1.10	0.00	2.19	0.00	0.00	0.73	0.00	4.75
315.0	0.00	0.00	0.00	10.24	8.78	8.41	0.00	0.00	0.37
360.0	0.00	4.75	0.00	0.00	2.19	2.93	0.73	0.00	0.00
C/γ(°)	180.0								
0.0	0.00								
45.0	1.83								
90.0	5.12								
135.0	0.00								
180.0	0.00								
225.0	1.83								
270.0	5.12								
315.0	0.00								
360.0	0.00								