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Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

NATA

Client:
LumCAT: 1653-S
Luminaire: 92.70.064.00

Report No: nt0100	Voltage(V): 33.5600
Test No: GC2019122417	Current(A): 0.2970
LampCAT: LUMINUS CXM-9-AC40	Power (W): 9.6700
Lamp flux(lm): 1077.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 937.13, Efficiency(%): 87.01% , Luminous Efficacy(lm/W): 96.91
Central intensity(cd): 3022.031, Maximum intensity(cd): 3022.031
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=25.8
[C90/270]Total=25.8
Field angle(10%Imax): [C0/180]Total=61.0
[C90/270]Total=61.0
Maximum s/h(1/2): C0_180=0.44 C90_270=0.44
Maximum s/h(1/4): C0_180=0.45 C90_270=0.45
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 87.01%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.210%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3022.031	0.000	0	.000%	.000%
1.0	3016.195	2.889	2.889	.268%	.308%
2.0	2996.227	8.630	11.519	.801%	1.229%
3.0	2958.117	14.241	25.76	1.322%	2.749%
4.0	2906.719	19.631	45.391	1.823%	4.844%
5.0	2837.039	24.709	70.1	2.294%	7.480%
6.0	2737.125	29.294	99.394	2.720%	10.606%
7.0	2609.719	33.188	132.582	3.082%	14.148%
8.0	2473.383	36.379	168.961	3.378%	18.030%
9.0	2298.305	38.672	207.633	3.591%	22.156%
10.0	2090.602	39.718	247.351	3.688%	26.394%
11.0	1896.117	39.836	287.186	3.699%	30.645%
12.0	1686.375	39.162	326.348	3.636%	34.824%
13.0	1492.102	37.721	364.068	3.502%	38.849%
14.0	1310.091	35.868	399.936	3.330%	42.677%
15.0	1166.400	33.998	433.935	3.157%	46.304%
16.0	1045.589	32.412	466.346	3.009%	49.763%
17.0	943.460	30.975	497.321	2.876%	53.068%
18.0	848.285	29.542	526.863	2.743%	56.221%
19.0	769.922	28.153	555.017	2.614%	59.225%
20.0	704.651	26.989	582.006	2.506%	62.105%
21.0	645.898	25.933	607.939	2.408%	64.872%
22.0	595.948	24.955	632.894	2.317%	67.535%
23.0	552.326	24.094	656.988	2.237%	70.106%
24.0	516.389	23.366	680.354	2.170%	72.599%
25.0	482.955	22.723	703.077	2.110%	75.024%
26.0	454.465	22.128	725.205	2.055%	77.385%
27.0	421.221	21.424	746.629	1.989%	79.672%
28.0	385.819	20.433	767.061	1.897%	81.852%
29.0	352.631	19.320	786.381	1.794%	83.913%
30.0	320.280	18.168	804.55	1.687%	85.852%
31.0	285.040	16.845	821.395	1.564%	87.650%
32.0	253.688	15.434	836.829	1.433%	89.297%
33.0	216.956	13.865	850.694	1.287%	90.776%
34.0	182.630	12.093	862.787	1.123%	92.067%
35.0	154.160	10.459	873.246	.971%	93.183%
36.0	126.239	8.928	882.174	.829%	94.135%
37.0	100.090	7.382	889.556	.685%	94.923%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	75.509	5.861	895.417	.544%	95.548%
39.0	54.963	4.453	899.87	.413%	96.024%
40.0	37.758	3.234	903.104	.300%	96.369%
41.0	25.095	2.238	905.342	.208%	96.608%
42.0	17.318	1.541	906.883	.143%	96.772%
43.0	13.957	1.159	908.042	.108%	96.896%
44.0	12.073	0.982	909.024	.091%	97.000%
45.0	10.385	0.863	909.887	.080%	97.093%
46.0	9.555	0.780	910.667	.072%	97.176%
47.0	9.007	0.738	911.405	.069%	97.255%
48.0	8.684	0.715	912.12	.066%	97.331%
49.0	8.409	0.702	912.822	.065%	97.406%
50.0	8.156	0.691	913.513	.064%	97.479%
51.0	8.037	0.685	914.198	.064%	97.553%
52.0	7.938	0.685	914.884	.064%	97.626%
53.0	7.847	0.687	915.57	.064%	97.699%
54.0	7.755	0.688	916.258	.064%	97.772%
55.0	7.671	0.689	916.947	.064%	97.846%
56.0	7.538	0.687	917.634	.064%	97.919%
57.0	7.425	0.684	918.318	.064%	97.992%
58.0	7.362	0.684	919.002	.063%	98.065%
59.0	7.200	0.681	919.683	.063%	98.138%
60.0	7.095	0.675	920.358	.063%	98.210%
61.0	7.003	0.673	921.031	.062%	98.282%
62.0	6.898	0.670	921.7	.062%	98.353%
63.0	6.771	0.665	922.365	.062%	98.424%
64.0	6.638	0.658	923.023	.061%	98.494%
65.0	6.427	0.647	923.67	.060%	98.563%
66.0	6.195	0.630	924.299	.058%	98.630%
67.0	5.885	0.607	924.907	.056%	98.695%
68.0	5.695	0.587	925.493	.054%	98.758%
69.0	5.541	0.573	926.067	.053%	98.819%
70.0	5.309	0.557	926.624	.052%	98.879%
71.0	5.189	0.543	927.166	.050%	98.936%
72.0	5.140	0.537	927.703	.050%	98.994%
73.0	5.105	0.536	928.239	.050%	99.051%
74.0	5.077	0.535	928.774	.050%	99.108%
75.0	5.055	0.535	929.31	.050%	99.165%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	5.006	0.534	929.844	.050%	99.222%
77.0	4.978	0.532	930.376	.049%	99.279%
78.0	4.950	0.531	930.908	.049%	99.336%
79.0	4.901	0.529	931.437	.049%	99.392%
80.0	4.880	0.527	931.964	.049%	99.448%
81.0	4.887	0.528	932.492	.049%	99.505%
82.0	4.950	0.533	933.026	.050%	99.562%
83.0	4.971	0.539	933.565	.050%	99.619%
84.0	4.880	0.537	934.102	.050%	99.676%
85.0	4.732	0.525	934.626	.049%	99.732%
86.0	4.725	0.517	935.143	.048%	99.788%
87.0	4.662	0.514	935.657	.048%	99.842%
88.0	4.549	0.505	936.162	.047%	99.896%
89.0	4.409	0.491	936.653	.046%	99.949%
90.0	4.366	0.481	937.134	.045%	100.000%

Zonal flux distribution table

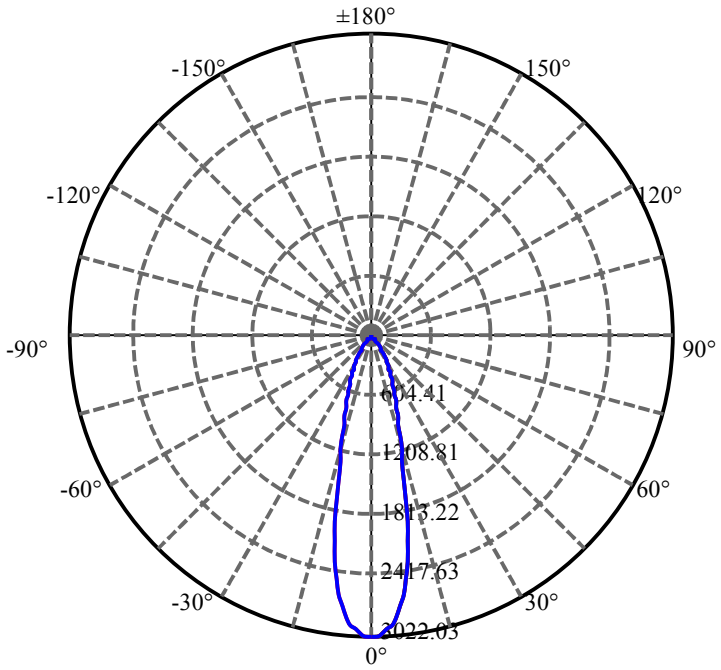
ZONAL LUMEN SUMMARY

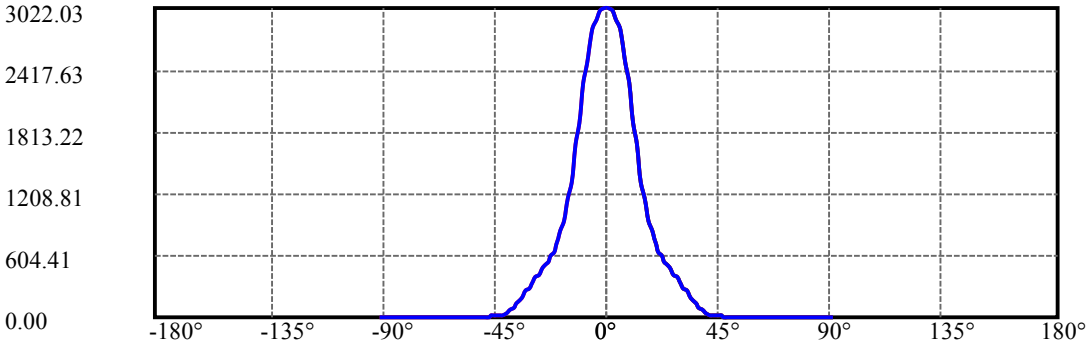
Zone	Lumens	%Lamp	%Fixt
0-30	804.55	74.70%	85.85%
0-40	903.10	83.85%	96.37%
0-60	920.36	85.46%	98.21%
0-90	936.65	86.97%	99.95%
0-120	936.65	86.97%	99.95%
0-180	937.13	87.01%	100.00%
60-90	16.97	1.58%	1.81%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-27.15	749.71	69.61%	80.00%

ZONAL LUMEN SUMMARY

0-10	247.35
10-20	334.65
20-30	222.54
30-40	98.55
40-50	10.41
50-60	6.84
60-70	6.27
70-80	5.34
80-90	4.69
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

Light Distribution Curve [Unit:cd]





C0(Max):

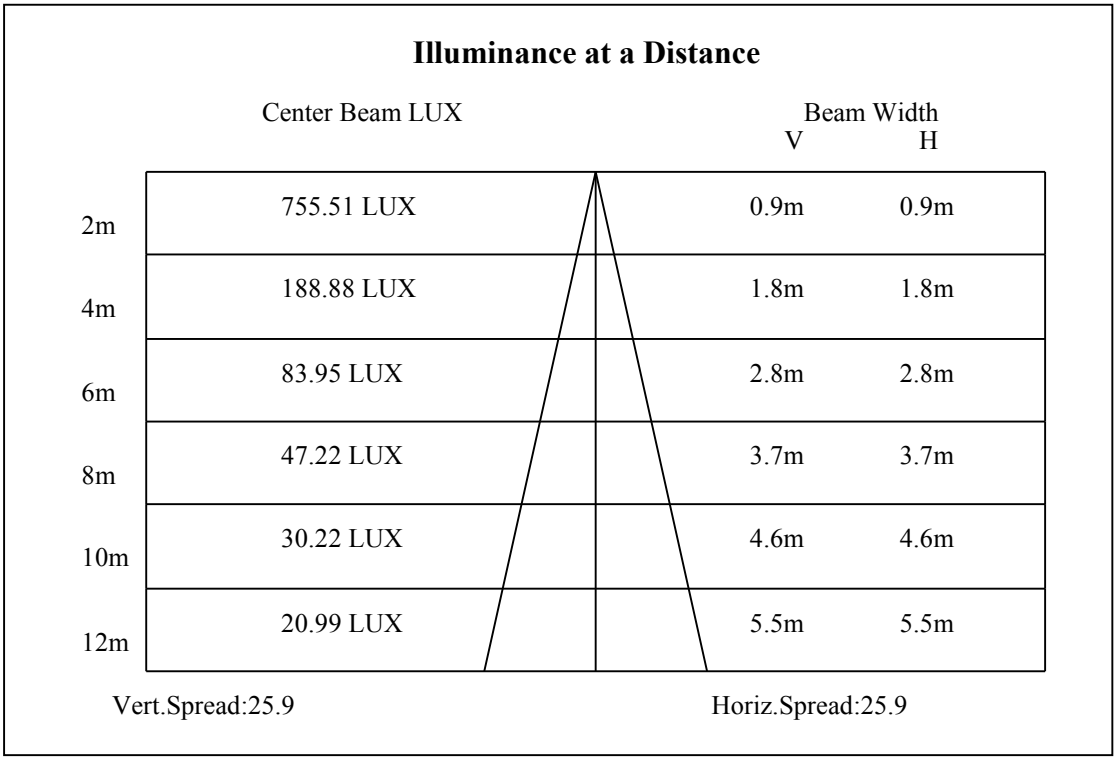
C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:30.5 Right:30.5
:C90/270Left:30.5 Right:30.5

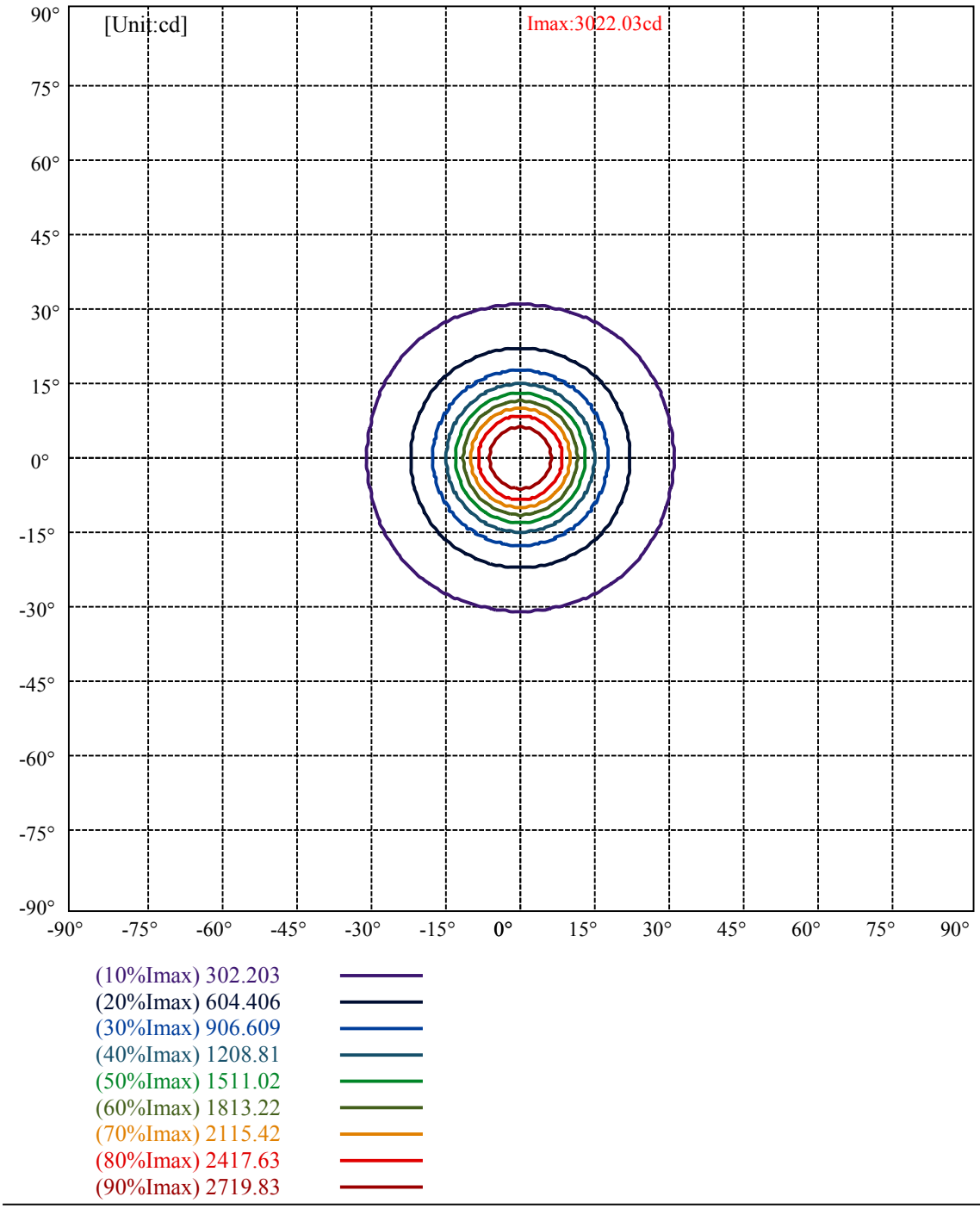
Beam Angle(50%Imax):C0/180Left:12.9 Right:12.9
:C90/270Left:12.9 Right:12.9

Lux distance Curve



Equipment: GMS1980 Date: 2019/12/24 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

ISO-Intensity(V-H)

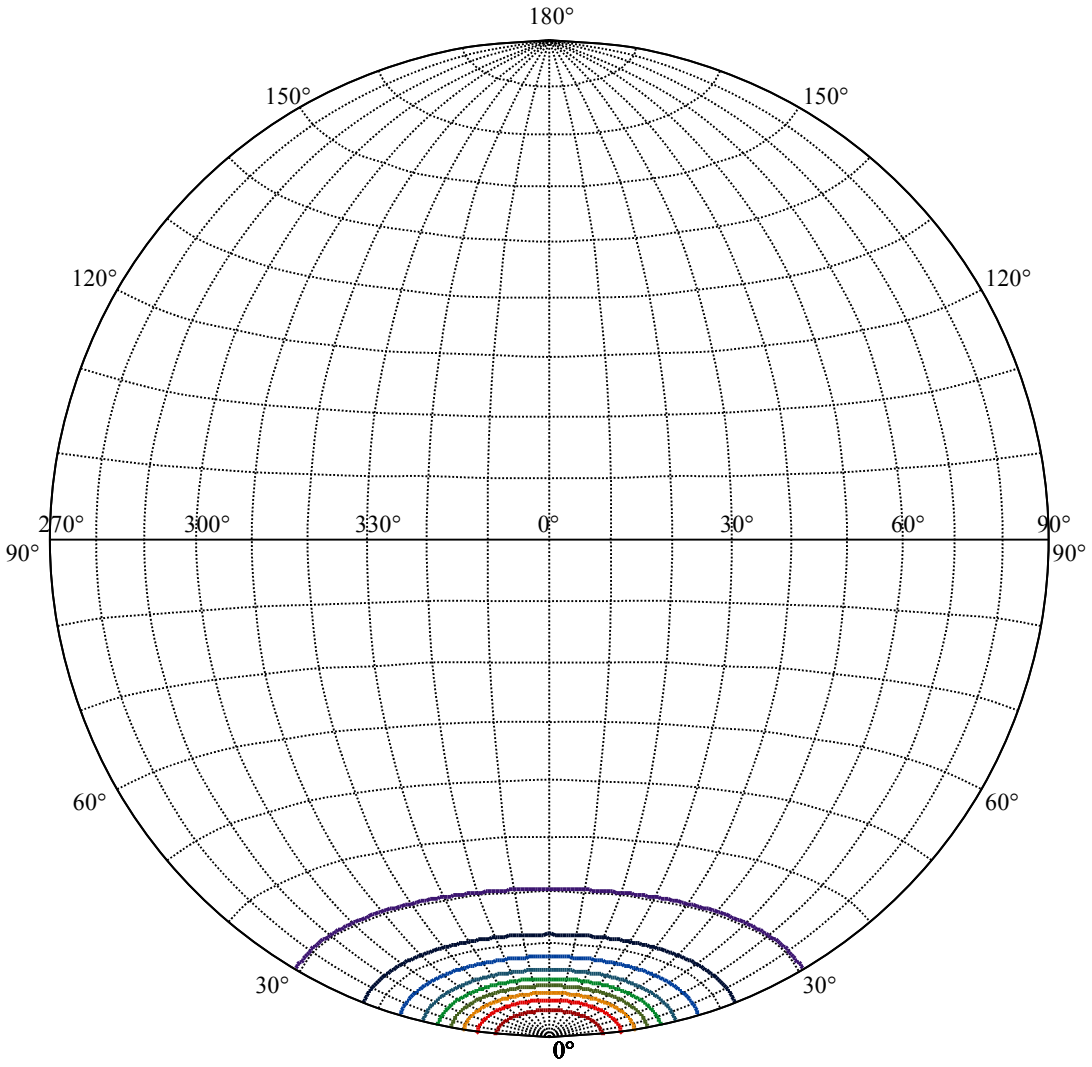


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/12/24
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:3022.03

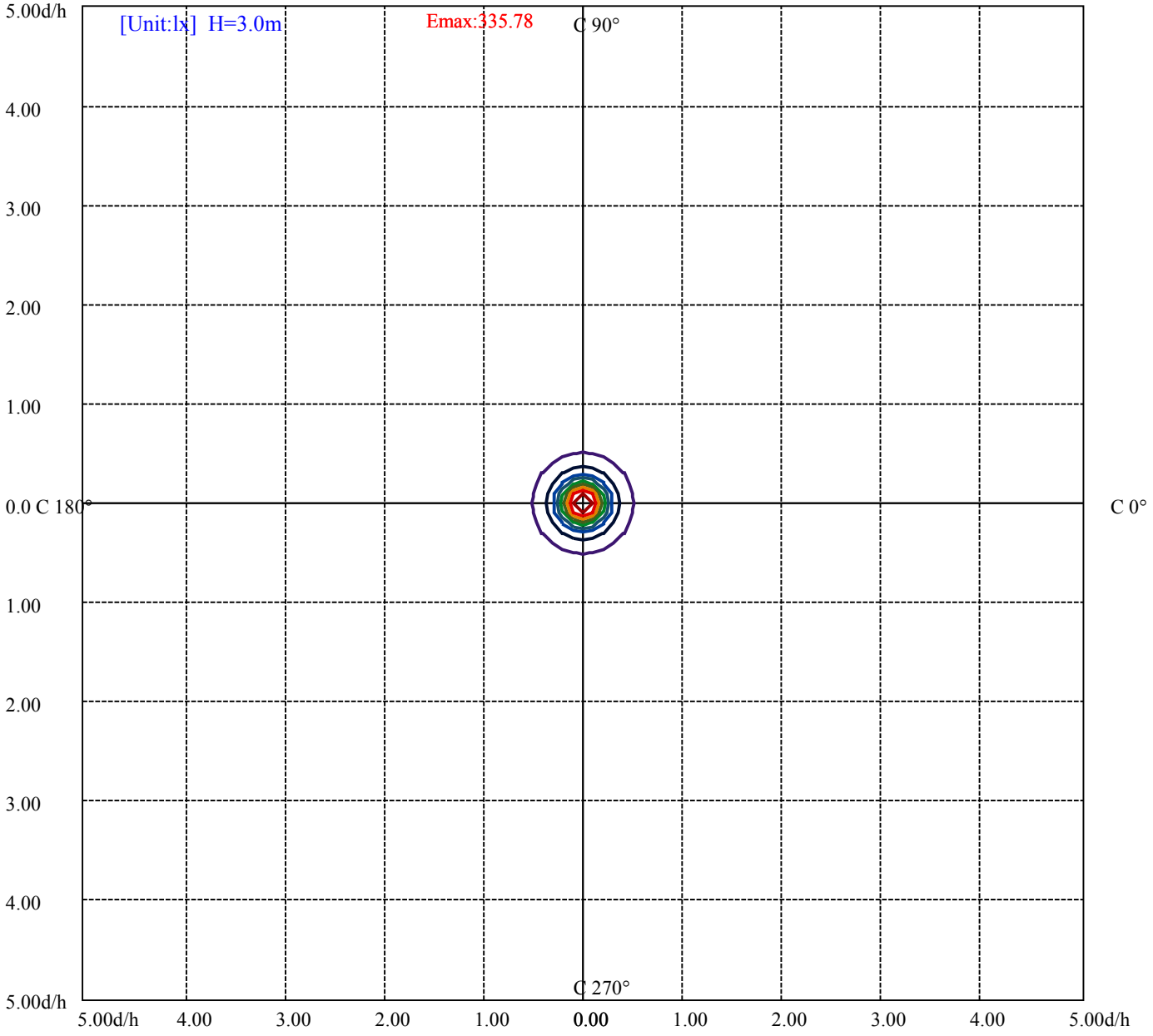
(10%Imax) 302.203
(20%Imax) 604.406
(30%Imax) 906.609
(40%Imax) 1208.81
(50%Imax) 1511.02
(60%Imax) 1813.22
(70%Imax) 2115.42
(80%Imax) 2417.63
(90%Imax) 2719.83

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/12/24
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO illuminance diagram

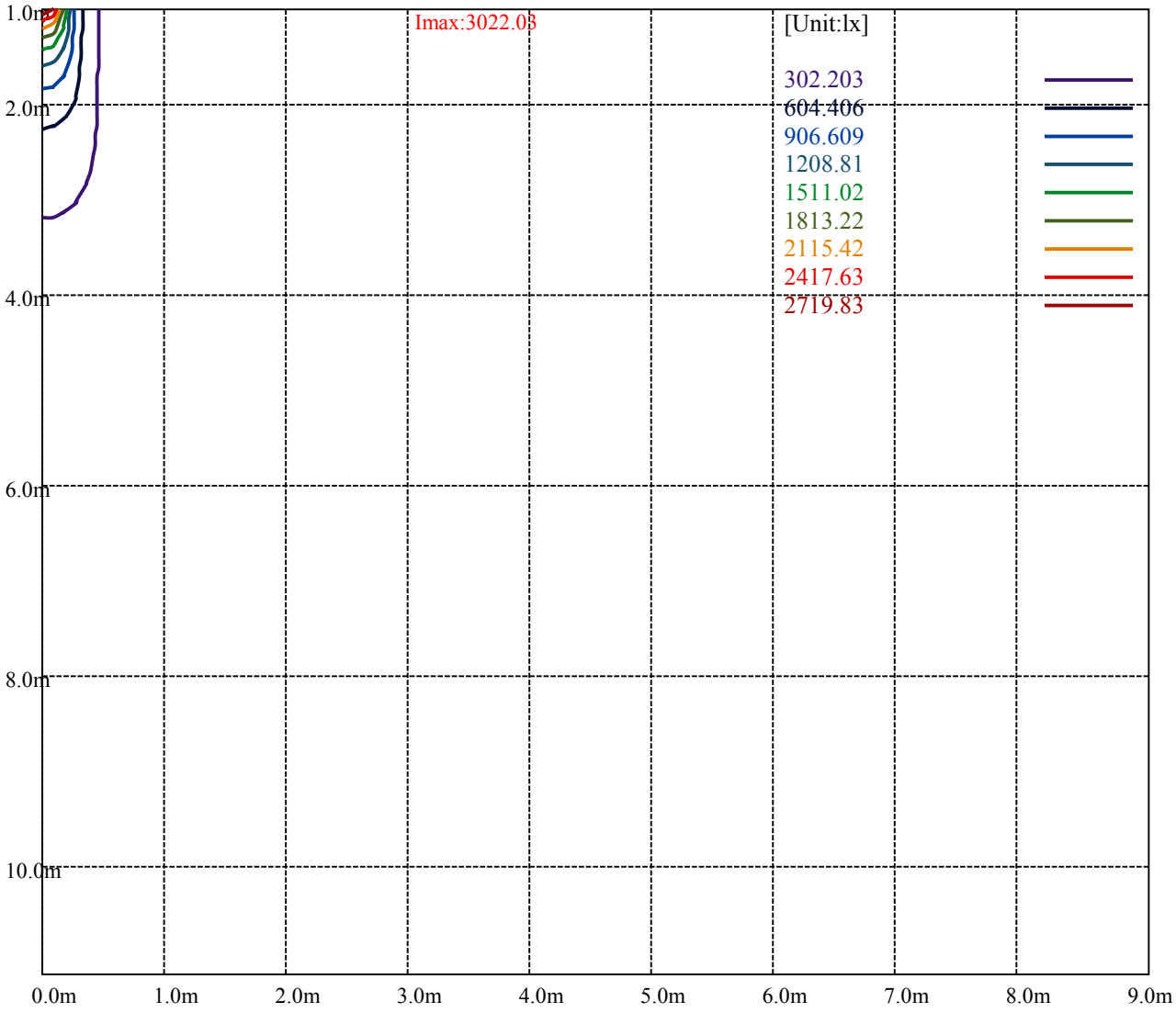


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/12/24
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/12/24
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Luminance Limitting Curve(no luminous side)

Luminance Table

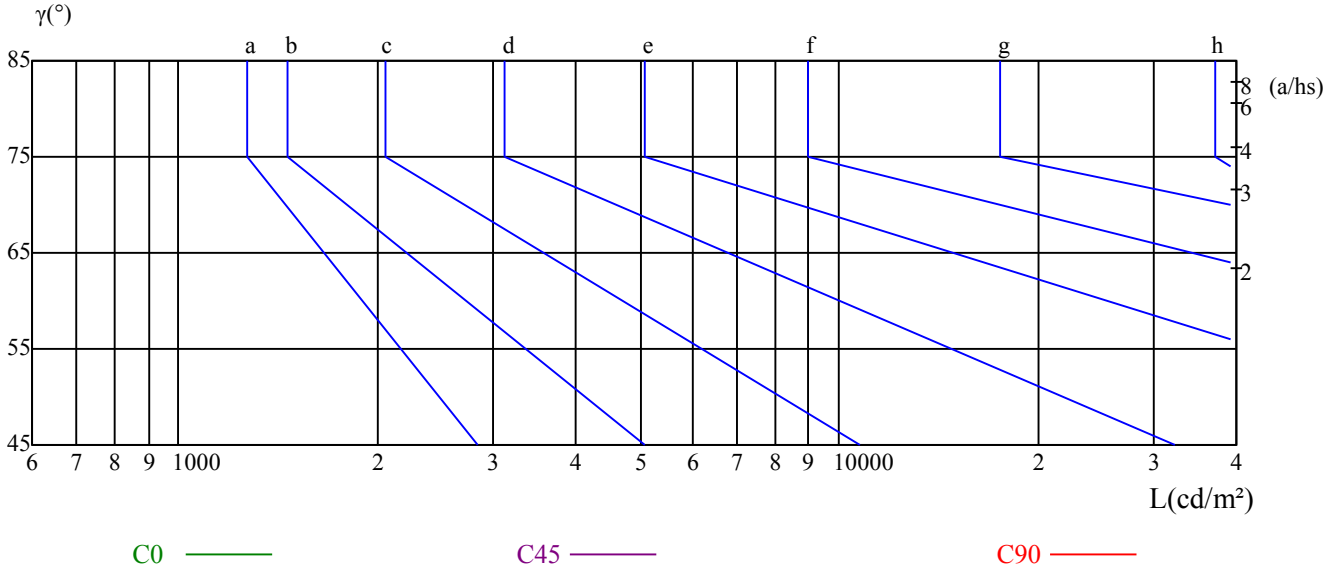
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

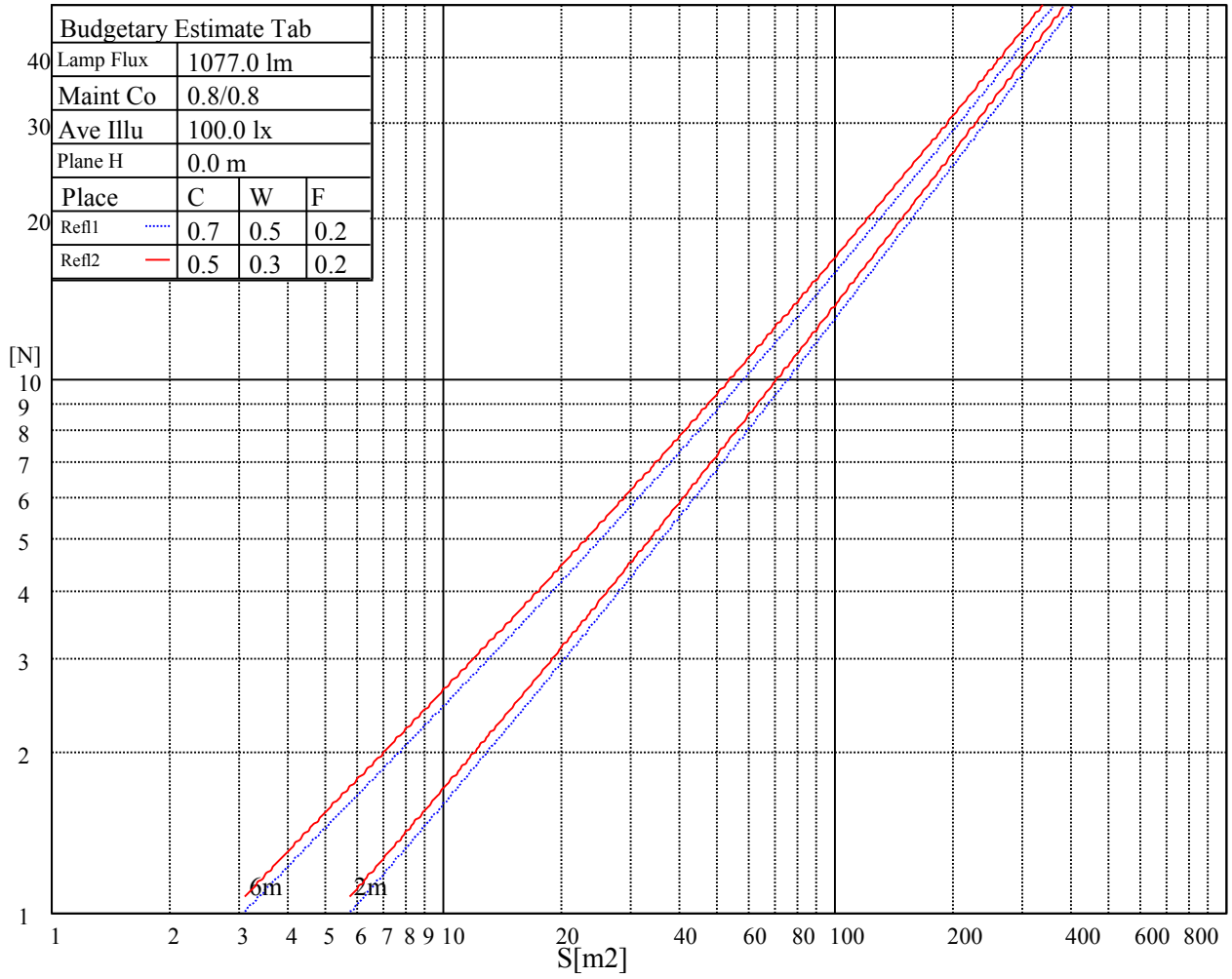
Glare Table

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 Limitting Curve



Budgetary Estimate Table

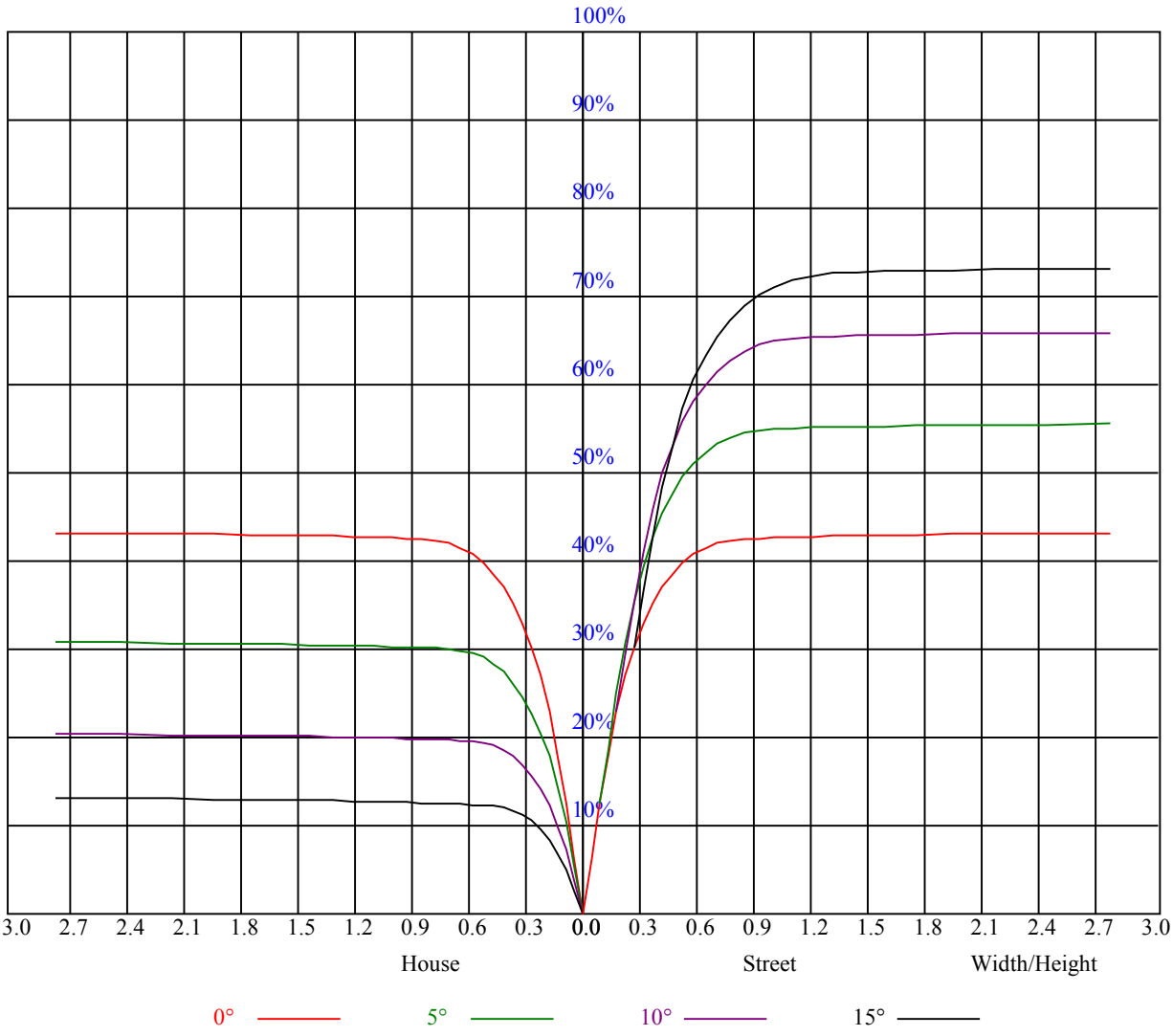


Equipment: GMS1980 Date: 2019/12/24 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

Utilization factor table for indoor luminaire

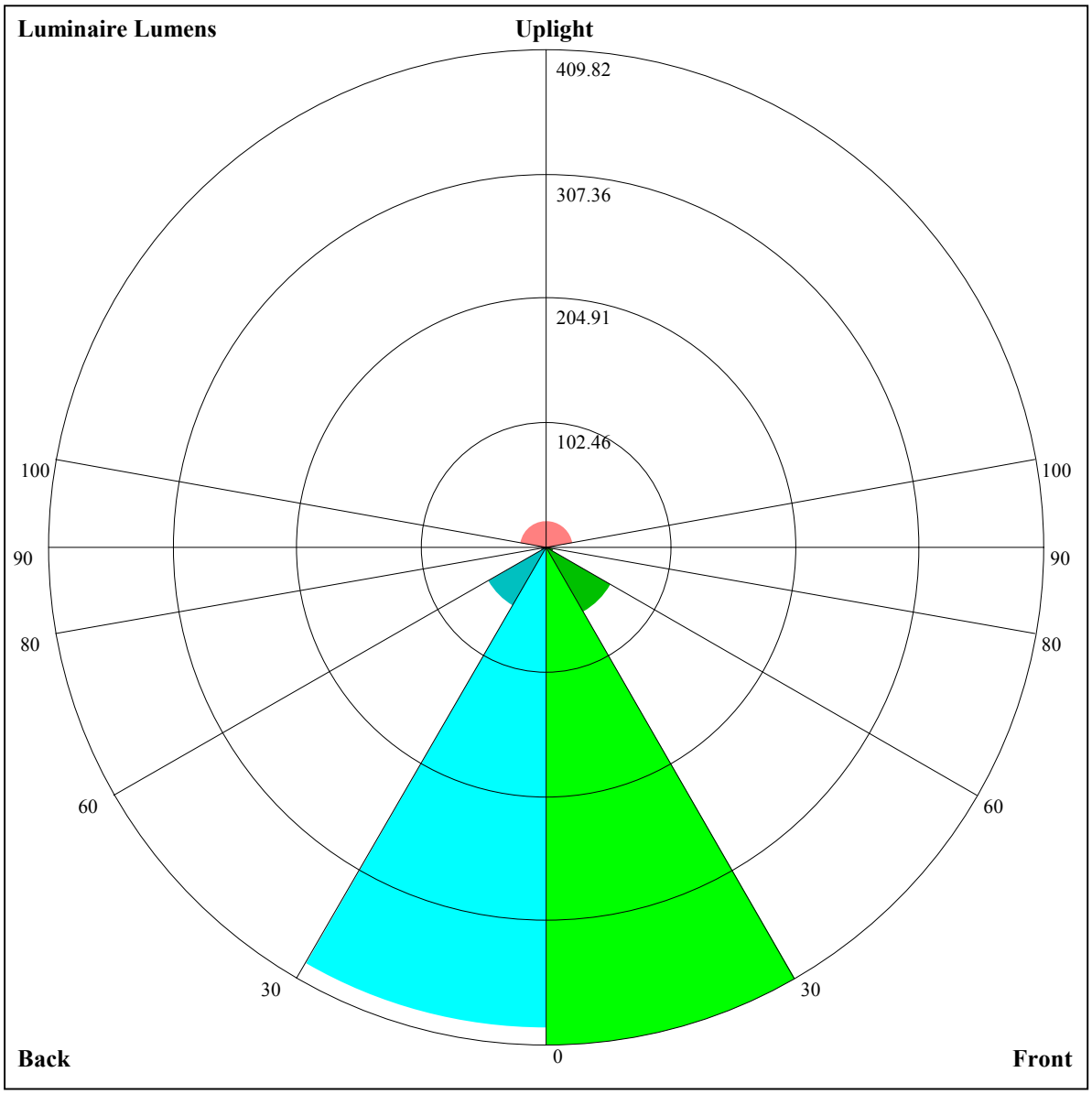
RHOCC	80			70			50			30			10			0
RHOW	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	COEFFCIENTS OF UTILIZATION RHOFC=20 CU															
0	1.04	1.04	1.04	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.89	0.89	0.89	0.87
1	0.97	0.95	0.93	0.95	0.94	0.92	0.92	0.90	0.89	0.89	0.87	0.86	0.86	0.85	0.84	0.82
2	0.92	0.89	0.86	0.90	0.87	0.85	0.87	0.85	0.83	0.85	0.83	0.81	0.82	0.81	0.80	0.78
3	0.87	0.83	0.80	0.86	0.82	0.80	0.83	0.81	0.78	0.81	0.79	0.77	0.79	0.78	0.76	0.75
4	0.83	0.78	0.75	0.82	0.78	0.75	0.80	0.77	0.74	0.78	0.75	0.73	0.77	0.74	0.72	0.71
5	0.79	0.75	0.71	0.78	0.74	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.74	0.71	0.69	0.68
6	0.75	0.71	0.68	0.75	0.71	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.71	0.69	0.66	0.65
7	0.72	0.68	0.65	0.72	0.68	0.65	0.71	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.63
8	0.69	0.65	0.62	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.66	0.63	0.61	0.60
9	0.67	0.62	0.60	0.66	0.62	0.60	0.66	0.62	0.59	0.65	0.62	0.59	0.64	0.61	0.59	0.58
10	0.64	0.60	0.57	0.64	0.60	0.57	0.63	0.60	0.57	0.63	0.59	0.57	0.62	0.59	0.57	0.56

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2019/12/24	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

LCS Graph



Luminaire Lumens:

FL=409.82,FM=61.2,FH=5.85,FVH=2.64

BL=395.6,BM=56.16,BH=5.62,BVH=2.49

UL=4.76,UH=22.67

BUG Rating:B1-U2-G0

Equipment: GMS1980	Date: 2019/12/24	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

Intensity data(cd)

C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	3020.06	3019.50	3004.31	2973.38	2932.31	2865.94	2771.44	2666.81	2544.75
45.0	3025.13	3022.31	3004.31	2975.63	2930.06	2864.25	2782.13	2657.81	2526.75
90.0	3020.06	3012.75	2991.94	2945.25	2892.94	2825.44	2707.88	2585.81	2443.50
135.0	3022.88	3020.06	3003.19	2965.50	2918.25	2850.75	2755.69	2645.44	2513.25
180.0	3020.06	3007.69	2982.38	2938.50	2878.88	2806.31	2704.50	2539.69	2384.44
225.0	3025.13	3013.88	2988.56	2943.00	2890.13	2816.44	2701.13	2561.63	2417.06
270.0	3020.06	3017.81	2999.81	2968.88	2917.13	2844.56	2756.81	2631.94	2504.81
315.0	3022.88	3015.56	2995.31	2954.81	2894.06	2822.63	2717.44	2588.63	2452.50
360.0	3020.06	3019.50	3004.31	2973.38	2932.31	2865.94	2771.44	2666.81	2544.75

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	2362.50	2193.19	2010.38	1798.31	1591.31	1423.69	1256.63	1113.19	1005.19
45.0	2356.31	2157.19	1962.56	1746.00	1542.38	1380.94	1240.31	1094.06	988.88
90.0	2257.31	2045.81	1848.94	1635.75	1464.19	1294.31	1114.54	1033.65	937.69
135.0	2320.31	2137.50	1938.38	1690.88	1507.50	1344.94	1200.94	1049.06	938.25
180.0	2210.63	1969.31	1769.06	1580.63	1392.19	1107.79	1092.38	968.18	871.14
225.0	2230.88	2019.38	1820.81	1603.69	1431.00	1259.44	1096.76	1000.80	904.11
270.0	2357.44	2140.88	1951.31	1756.69	1526.63	1361.25	1218.38	1064.81	960.75
315.0	2291.06	2061.56	1867.50	1679.06	1481.63	1308.38	1111.28	1040.96	941.68
360.0	2362.50	2193.19	2010.38	1798.31	1591.31	1423.69	1256.63	1113.19	1005.19

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	900.00	822.38	748.13	682.31	633.94	582.75	538.88	507.38	478.69
45.0	906.19	821.25	750.38	695.25	641.25	595.13	554.06	520.31	491.06
90.0	842.06	764.33	706.16	648.39	598.22	557.83	525.09	490.33	461.59
135.0	850.50	761.06	689.06	632.81	579.38	531.56	496.69	465.19	439.31
180.0	776.08	697.84	639.73	585.39	536.12	499.22	469.01	434.25	405.23
225.0	794.53	739.58	684.68	619.37	581.63	544.56	510.41	479.70	450.96
270.0	871.31	788.06	717.75	664.31	613.13	567.00	532.69	500.06	471.94
315.0	845.61	764.89	701.33	639.34	583.93	540.56	504.28	466.43	436.95
360.0	900.00	822.38	748.13	682.31	633.94	582.75	538.88	507.38	478.69

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	442.13	411.19	379.13	343.13	308.81	284.63	243.62	206.16	177.98
45.0	456.19	417.94	384.75	349.31	307.69	286.31	239.57	204.30	171.06
90.0	429.41	392.51	354.99	321.58	284.23	247.78	215.94	180.96	151.93
135.0	406.13	372.38	340.88	314.44	286.88	237.26	206.33	170.16	142.31
180.0	375.36	341.83	305.78	275.57	241.26	208.41	181.41	152.66	128.42
225.0	415.69	380.31	347.18	311.51	279.39	243.90	208.41	178.37	151.31
270.0	438.75	402.75	371.81	340.88	300.94	284.63	234.45	194.96	165.54
315.0	406.13	367.65	336.54	305.83	271.13	236.59	205.93	173.48	144.73
360.0	442.13	411.19	379.13	343.13	308.81	284.63	243.62	206.16	177.98

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	151.03	122.18	95.23	73.41	51.36	35.61	22.05	15.13	13.28
45.0	144.17	121.28	88.54	67.61	50.96	30.88	18.23	13.33	11.19
90.0	121.73	93.94	71.78	50.12	31.84	20.42	14.46	11.70	10.01
135.0	116.94	91.29	68.34	51.02	34.65	23.51	16.59	13.89	12.04
180.0	103.05	81.84	60.19	42.24	28.12	20.19	16.37	14.46	12.43
225.0	120.09	92.64	70.09	46.07	31.22	20.42	15.69	13.39	11.36
270.0	137.31	107.66	80.49	59.51	39.60	26.10	17.55	14.68	12.83
315.0	115.59	89.89	69.41	49.73	34.31	23.63	17.61	15.08	13.44
360.0	151.03	122.18	95.23	73.41	51.36	35.61	22.05	15.13	13.28

Intensity data(cd)

C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0
0.0	11.08	9.51	8.94	8.55	7.99	7.54	7.43	7.09	6.81
45.0	9.11	8.21	7.59	7.31	7.03	6.75	6.58	6.41	6.24
90.0	8.61	7.99	7.48	7.09	6.81	6.58	6.41	6.19	6.08
135.0	10.29	9.45	8.78	8.33	7.82	7.43	7.09	6.81	6.64
180.0	11.25	10.58	9.73	9.34	9.06	8.78	8.78	8.94	9.17
225.0	10.07	9.73	9.39	9.51	9.73	9.62	9.62	9.56	9.17
270.0	10.63	9.79	9.51	9.28	9.34	9.45	9.51	9.62	9.56
315.0	12.04	11.19	10.63	10.07	9.51	9.11	8.89	8.89	9.11
360.0	11.08	9.51	8.94	8.55	7.99	7.54	7.43	7.09	6.81

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	6.75	6.64	6.53	6.58	6.86	7.20	7.43	7.93	8.27
45.0	6.13	5.96	5.85	5.79	5.79	5.74	5.68	5.68	5.63
90.0	5.91	5.79	5.74	5.68	5.68	5.57	5.63	5.63	5.63
135.0	6.64	6.64	6.81	7.31	7.76	7.88	8.21	8.66	8.61
180.0	9.45	9.34	9.17	9.00	8.72	8.21	7.88	7.37	6.86
225.0	8.61	8.33	7.76	7.09	6.64	6.24	5.91	5.68	5.68
270.0	9.28	9.17	8.78	8.10	7.65	7.20	6.69	6.19	5.96
315.0	9.28	9.51	9.68	9.84	9.79	9.56	9.34	8.89	8.55
360.0	6.75	6.64	6.53	6.58	6.86	7.20	7.43	7.93	8.27

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	8.38	8.44	8.27	7.88	7.20	6.64	6.30	5.79	5.40
45.0	5.63	5.63	5.63	5.63	5.63	5.57	5.57	5.51	5.40
90.0	5.68	5.74	5.79	5.74	5.57	5.51	5.40	5.23	5.12
135.0	8.27	7.99	7.43	6.81	6.19	5.91	5.68	5.23	5.18
180.0	6.58	6.30	5.96	5.68	5.46	5.34	5.18	5.01	4.95
225.0	5.63	5.63	5.57	5.51	5.40	5.29	5.18	5.06	5.06
270.0	5.85	5.85	5.85	5.79	5.68	5.57	5.46	5.29	5.12
315.0	8.16	7.54	6.92	6.53	5.96	5.74	5.57	5.34	5.29
360.0	8.38	8.44	8.27	7.88	7.20	6.64	6.30	5.79	5.40

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	5.34	5.34	5.29	5.29	5.23	5.23	5.18	5.18	5.12
45.0	5.29	5.23	5.18	5.18	5.18	5.06	5.01	5.01	4.95
90.0	5.06	5.06	5.01	4.95	4.89	4.89	4.84	4.84	4.78
135.0	5.18	5.12	5.12	5.06	5.01	5.01	5.01	4.89	4.89
180.0	5.01	4.95	4.95	4.95	4.89	4.89	4.84	4.78	4.78
225.0	5.01	4.95	4.95	4.89	4.84	4.84	4.78	4.73	4.73
270.0	5.06	5.01	4.95	4.95	4.89	4.84	4.84	4.78	4.73
315.0	5.18	5.18	5.18	5.18	5.12	5.06	5.12	5.01	5.06
360.0	5.34	5.34	5.29	5.29	5.23	5.23	5.18	5.18	5.12

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	5.12	5.40	5.63	5.57	5.06	5.12	5.29	5.34	4.39
45.0	4.95	5.12	5.40	5.29	4.89	4.95	4.67	4.50	4.50
90.0	4.78	4.73	4.67	4.67	4.67	4.61	4.50	4.44	4.39
135.0	4.84	4.78	4.67	4.61	4.56	4.50	4.44	4.39	4.33
180.0	4.73	4.67	4.61	4.61	4.50	4.44	4.44	4.39	4.39
225.0	4.67	4.67	4.61	4.61	4.56	4.50	4.50	4.44	4.50
270.0	4.73	4.67	4.61	4.67	4.67	4.67	4.50	4.44	4.44
315.0	5.29	5.57	5.57	5.01	4.95	5.01	4.95	4.44	4.33
360.0	5.12	5.40	5.63	5.57	5.06	5.12	5.29	5.34	4.39

Intensity data(cd)

C/γ(°)	90.0
0.0	4.33
45.0	4.33
90.0	4.33
135.0	4.33
180.0	4.33
225.0	4.44
270.0	4.44
315.0	4.39
360.0	4.33