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

NATA

Client:
LumCAT: 2-1283-N
Luminaire: 92.70.064.00

Report No: nt0100	Voltage(V): 33.6600
Test No: GC20191225120	Current(A): 0.2970
LampCAT: LUMINUS CXM-9-AC40	Power (W): 9.9900
Lamp flux(lm): 1100.0	PF: 1.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 902.42, Efficiency(%): 82.04% , Luminous Efficacy(lm/W): 90.33
Central intensity(cd): 4715.578, Maximum intensity(cd): 4715.578
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=15.2
[C90/270]Total=15.2
Field angle(10%Imax): [C0/180]Total=52.8
[C90/270]Total=52.8
Maximum s/h(1/2): C0_180=0.26 C90_270=0.26
Maximum s/h(1/4): C0_180=0.30 C90_270=0.30
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 82.04%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.474%

Equipment: GMS1980	Date: 2019/12/25	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	4715.578	0.000	0	.000%	.000%
1.0	4655.109	4.484	4.484	.408%	.497%
2.0	4475.883	13.106	17.589	1.191%	1.949%
3.0	4182.328	20.708	38.297	1.883%	4.244%
4.0	3827.672	26.812	65.109	2.437%	7.215%
5.0	3430.898	31.226	96.335	2.839%	10.675%
6.0	3015.914	33.880	130.215	3.080%	14.429%
7.0	2576.109	34.710	164.924	3.155%	18.276%
8.0	2229.258	34.391	199.315	3.126%	22.087%
9.0	1888.242	33.370	232.685	3.034%	25.785%
10.0	1615.430	31.707	264.392	2.882%	29.298%
11.0	1424.341	30.374	294.766	2.761%	32.664%
12.0	1268.838	29.440	324.206	2.676%	35.926%
13.0	1125.302	28.412	352.619	2.583%	39.075%
14.0	1017.429	27.427	380.045	2.493%	42.114%
15.0	942.525	26.907	406.953	2.446%	45.096%
16.0	865.238	26.489	433.441	2.408%	48.031%
17.0	806.555	26.034	459.476	2.367%	50.916%
18.0	749.440	25.655	485.131	2.332%	53.759%
19.0	703.434	25.277	510.408	2.298%	56.560%
20.0	663.145	25.012	535.42	2.274%	59.331%
21.0	625.795	24.750	560.17	2.250%	62.074%
22.0	592.270	24.478	584.648	2.225%	64.786%
23.0	562.866	24.238	608.886	2.203%	67.472%
24.0	534.748	23.998	632.883	2.182%	70.132%
25.0	507.312	23.694	656.577	2.154%	72.757%
26.0	482.822	23.372	679.95	2.125%	75.347%
27.0	456.694	22.985	702.935	2.090%	77.894%
28.0	426.537	22.362	725.297	2.033%	80.372%
29.0	392.386	21.425	746.722	1.948%	82.746%
30.0	357.940	20.259	766.981	1.842%	84.991%
31.0	305.332	18.458	785.439	1.678%	87.037%
32.0	262.561	16.269	801.708	1.479%	88.840%
33.0	208.554	13.879	815.587	1.262%	90.378%
34.0	158.126	11.097	826.684	1.009%	91.607%
35.0	118.723	8.598	835.282	.782%	92.560%
36.0	83.777	6.448	841.73	.586%	93.274%
37.0	58.366	4.636	846.366	.421%	93.788%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	41.372	3.329	849.695	.303%	94.157%
39.0	30.945	2.468	852.163	.224%	94.431%
40.0	25.088	1.954	854.117	.178%	94.647%
41.0	22.043	1.678	855.795	.153%	94.833%
42.0	20.187	1.534	857.33	.139%	95.003%
43.0	18.724	1.441	858.771	.131%	95.163%
44.0	17.712	1.375	860.146	.125%	95.315%
45.0	16.727	1.324	861.47	.120%	95.462%
46.0	15.975	1.279	862.749	.116%	95.604%
47.0	15.321	1.245	863.994	.113%	95.742%
48.0	14.801	1.218	865.211	.111%	95.877%
49.0	14.330	1.196	866.407	.109%	96.009%
50.0	13.922	1.178	867.585	.107%	96.140%
51.0	13.613	1.165	868.75	.106%	96.269%
52.0	13.409	1.159	869.91	.105%	96.397%
53.0	13.331	1.163	871.073	.106%	96.526%
54.0	13.317	1.175	872.248	.107%	96.656%
55.0	13.352	1.190	873.438	.108%	96.788%
56.0	13.366	1.207	874.645	.110%	96.922%
57.0	13.430	1.225	875.871	.111%	97.058%
58.0	13.444	1.243	877.113	.113%	97.195%
59.0	13.409	1.255	878.369	.114%	97.335%
60.0	13.289	1.261	879.63	.115%	97.474%
61.0	12.860	1.248	880.878	.113%	97.613%
62.0	12.340	1.214	882.092	.110%	97.747%
63.0	11.693	1.169	883.261	.106%	97.877%
64.0	10.955	1.111	884.372	.101%	98.000%
65.0	10.280	1.051	885.423	.096%	98.116%
66.0	9.759	1.000	886.423	.091%	98.227%
67.0	9.225	0.955	887.378	.087%	98.333%
68.0	8.852	0.916	888.293	.083%	98.434%
69.0	8.430	0.882	889.175	.080%	98.532%
70.0	7.903	0.839	890.014	.076%	98.625%
71.0	7.453	0.794	890.808	.072%	98.713%
72.0	7.109	0.757	891.565	.069%	98.797%
73.0	6.877	0.731	892.296	.066%	98.878%
74.0	6.701	0.714	893.01	.065%	98.957%
75.0	6.546	0.700	893.71	.064%	99.035%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	6.370	0.686	894.395	.062%	99.111%
77.0	6.223	0.671	895.067	.061%	99.185%
78.0	6.075	0.658	895.725	.060%	99.258%
79.0	5.913	0.644	896.369	.059%	99.329%
80.0	5.752	0.629	896.998	.057%	99.399%
81.0	5.604	0.614	897.612	.056%	99.467%
82.0	5.449	0.599	898.212	.054%	99.533%
83.0	5.295	0.584	898.796	.053%	99.598%
84.0	5.147	0.569	899.364	.052%	99.661%
85.0	4.971	0.552	899.917	.050%	99.722%
86.0	4.816	0.535	900.452	.049%	99.782%
87.0	4.627	0.517	900.968	.047%	99.839%
88.0	4.521	0.501	901.47	.046%	99.894%
89.0	4.303	0.484	901.953	.044%	99.948%
90.0	4.254	0.469	902.422	.043%	100.000%

Zonal flux distribution table

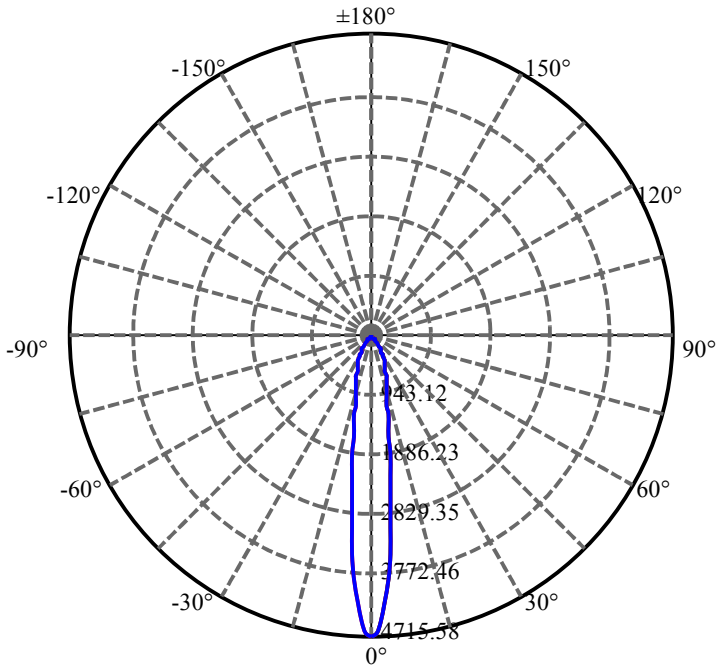
ZONAL LUMEN SUMMARY

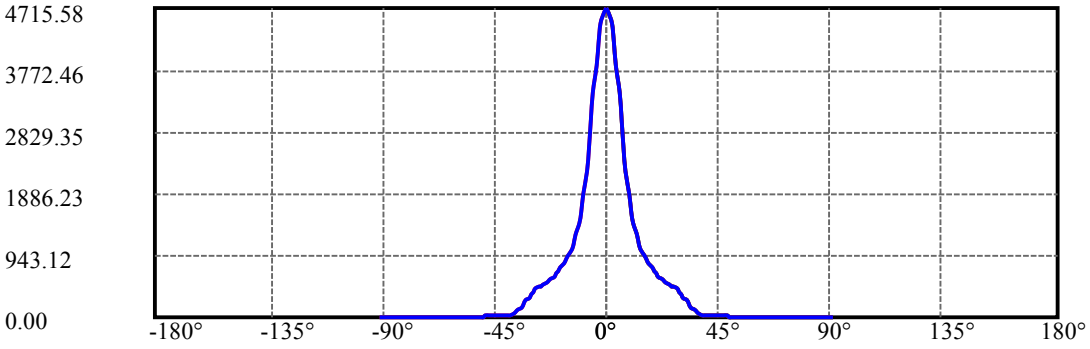
Zone	Lumens	%Lamp	%Fixt
0-30	766.98	69.73%	84.99%
0-40	854.12	77.65%	94.65%
0-60	879.63	79.97%	97.47%
0-90	901.95	82.00%	99.95%
0-120	901.95	82.00%	99.95%
0-180	902.42	82.04%	100.00%
60-90	23.58	2.14%	2.61%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-27.85	721.94	65.63%	80.00%

ZONAL LUMEN SUMMARY

0-10	264.39
10-20	271.03
20-30	231.56
30-40	87.14
40-50	13.47
50-60	12.04
60-70	10.38
70-80	6.98
80-90	4.96
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):

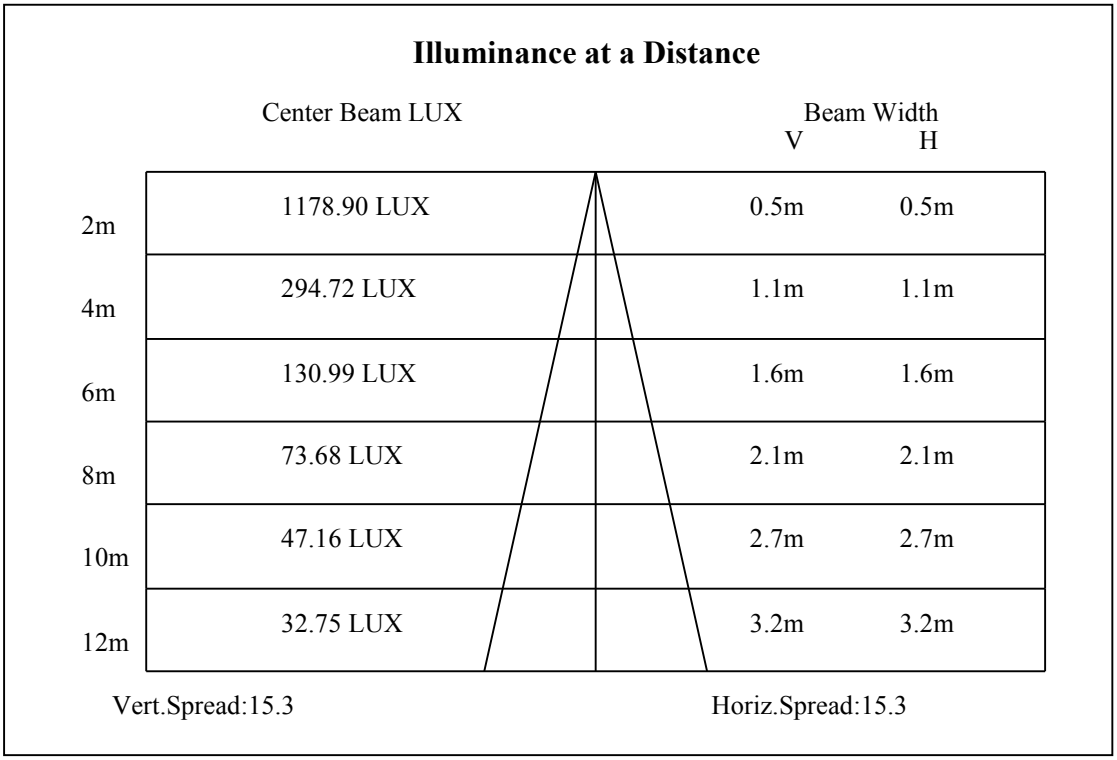
C0/C180:

C90/C270:

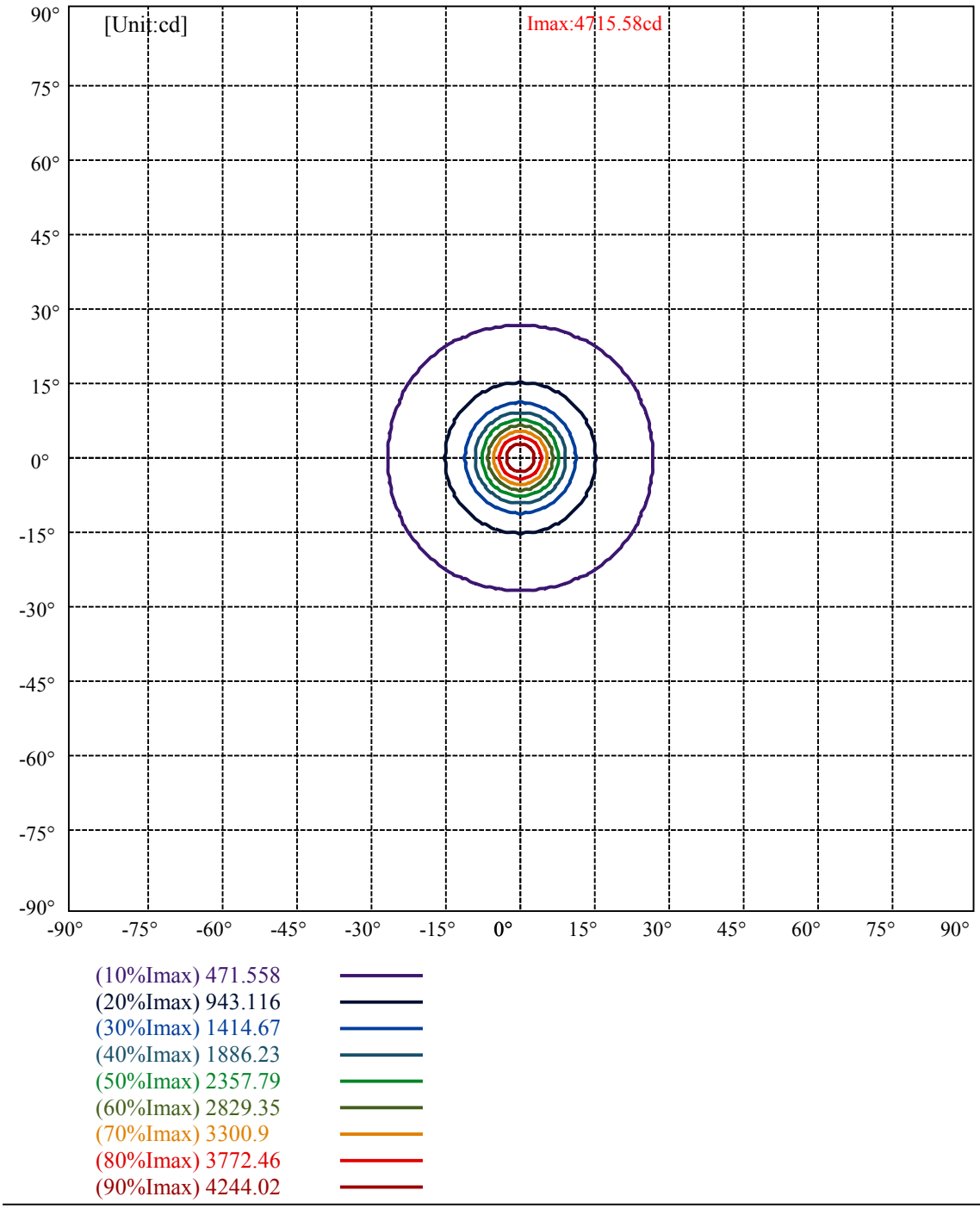
Field angle(10%Imax):C0/180Left:26.4 Right:26.4
:C90/270Left:26.4 Right:26.4

Beam Angle(50%Imax):C0/180Left:7.6 Right:7.6
:C90/270Left:7.6 Right:7.6

Lux distance Curve



ISO-Intensity(V-H)

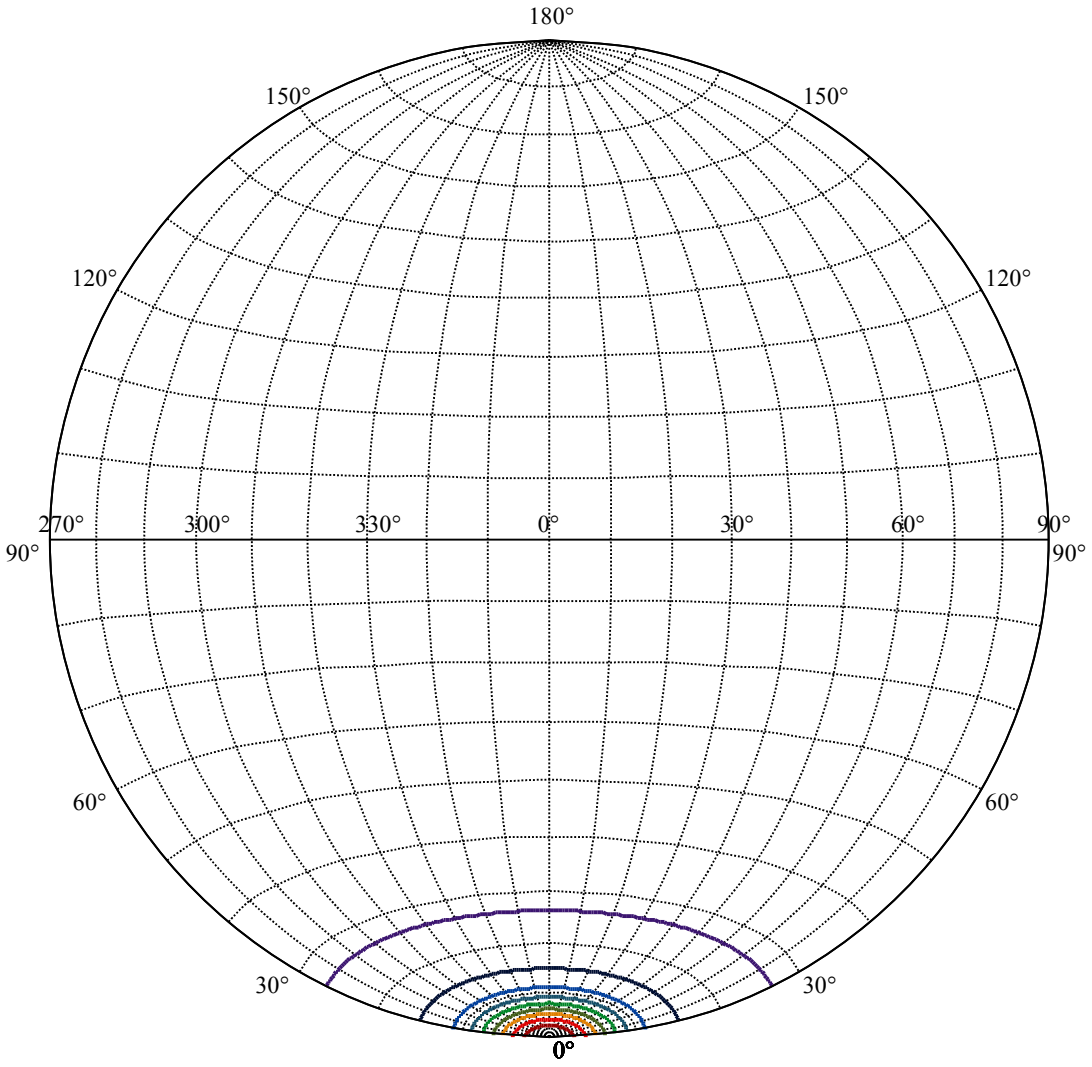


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/12/25
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:4715.58

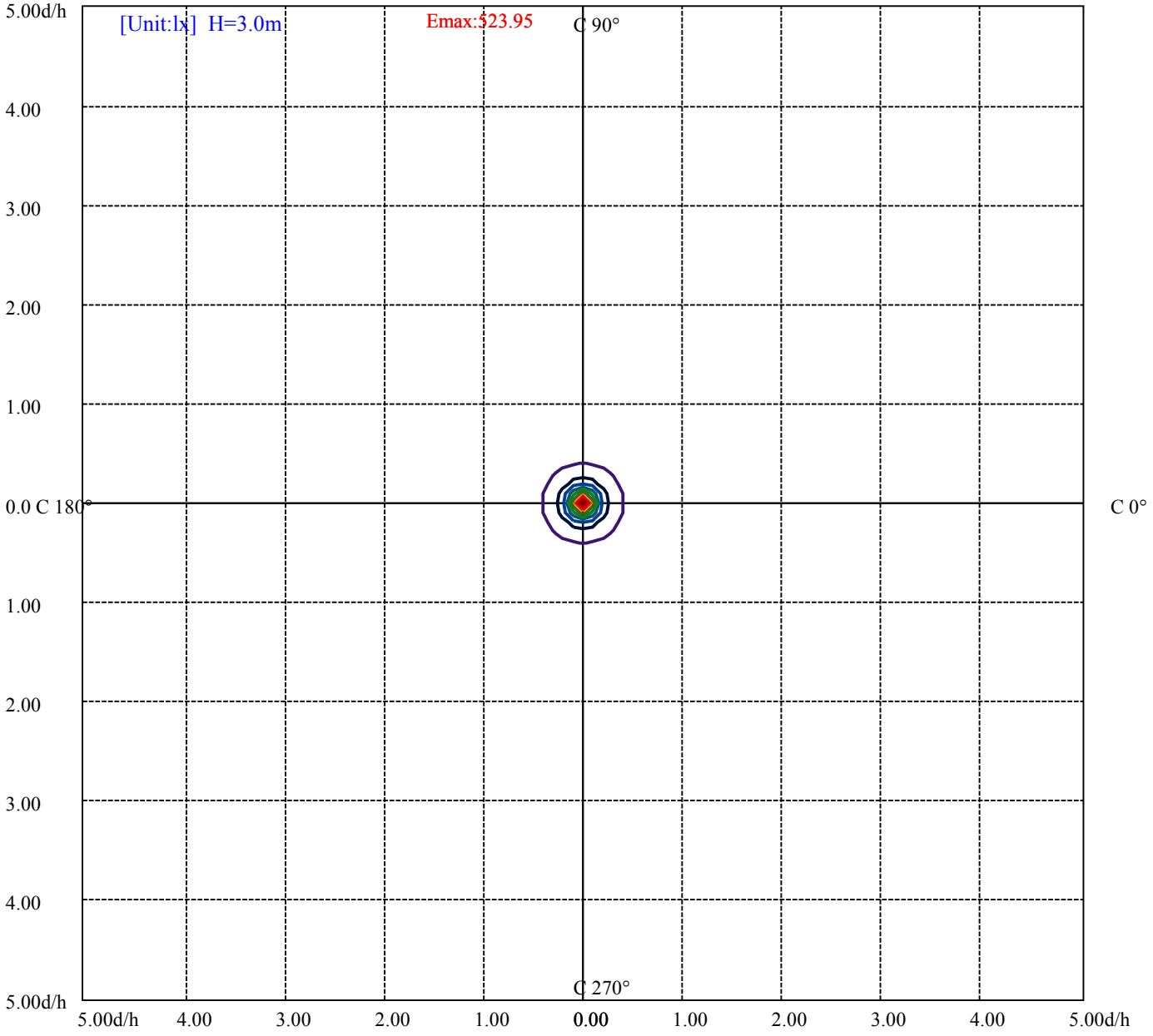
(10%Imax) 471.558
(20%Imax) 943.116
(30%Imax) 1414.67
(40%Imax) 1886.23
(50%Imax) 2357.79
(60%Imax) 2829.35
(70%Imax) 3300.9
(80%Imax) 3772.46
(90%Imax) 4244.02

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/12/25
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO illuminance diagram

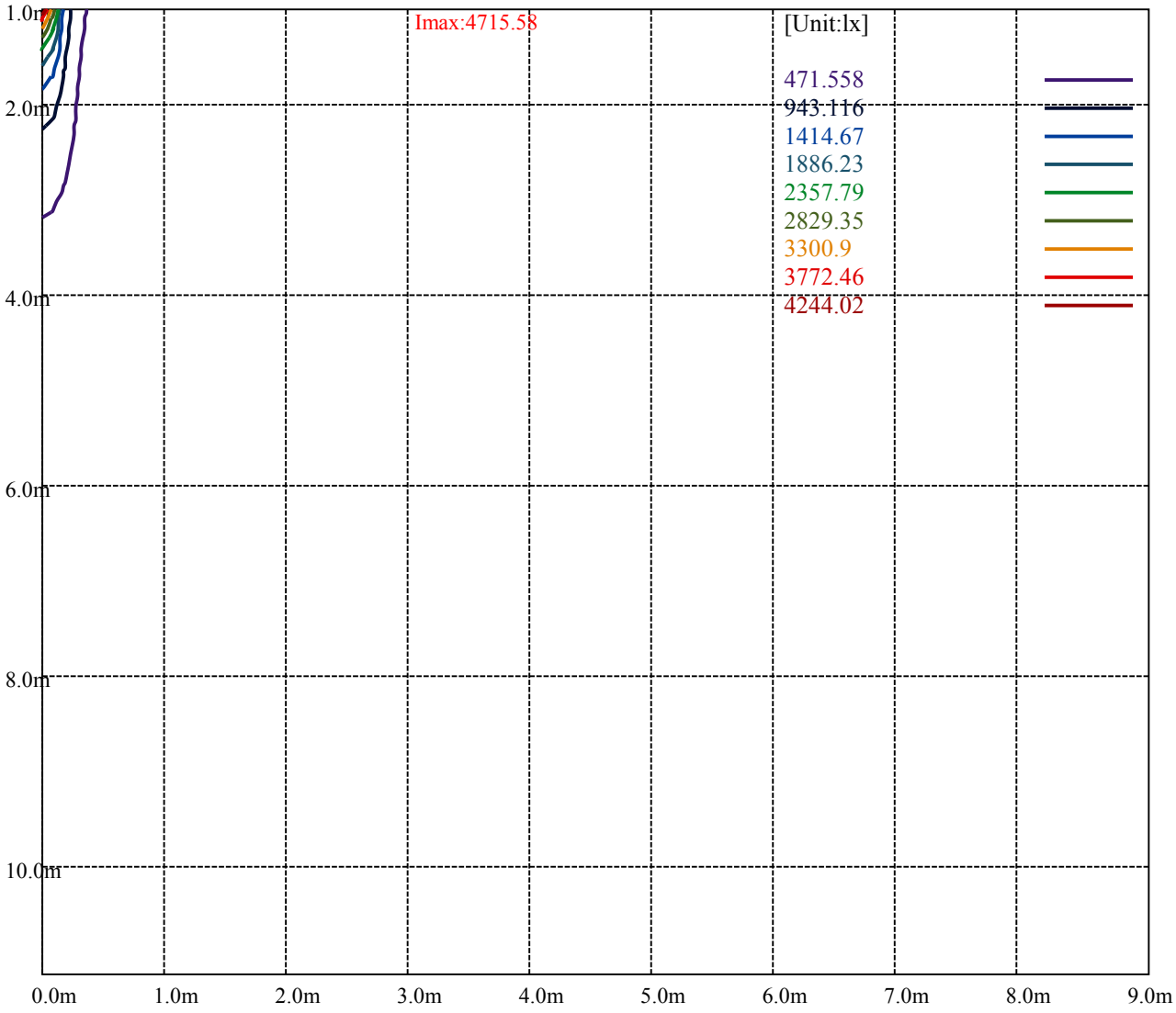


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/12/25
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/12/25
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Luminance Limitting Curve(no luminous side)

Luminance Table

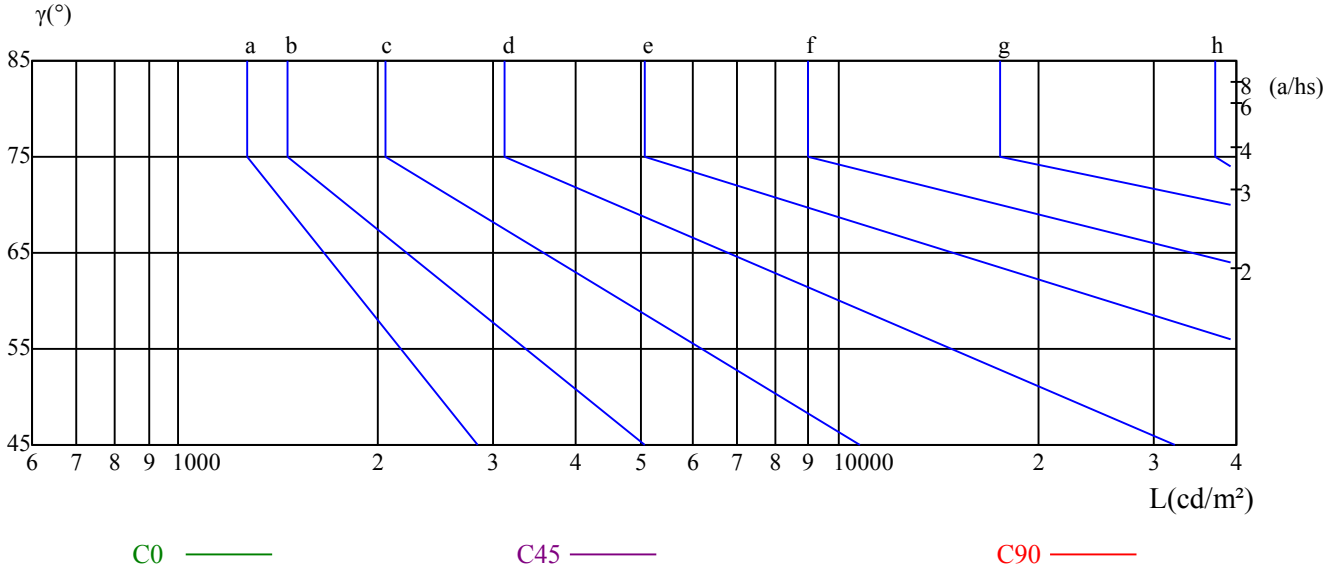
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

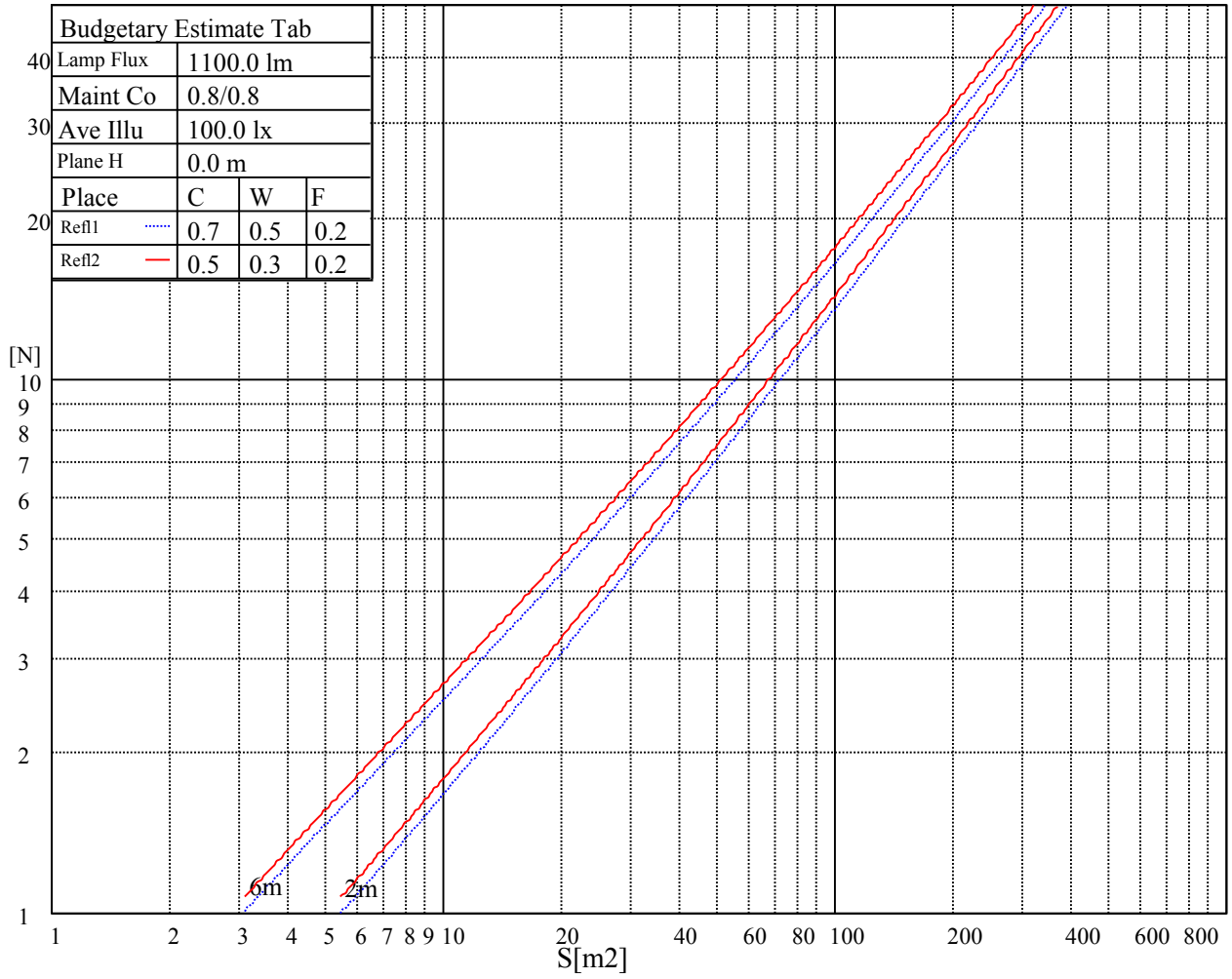
Glare Table

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

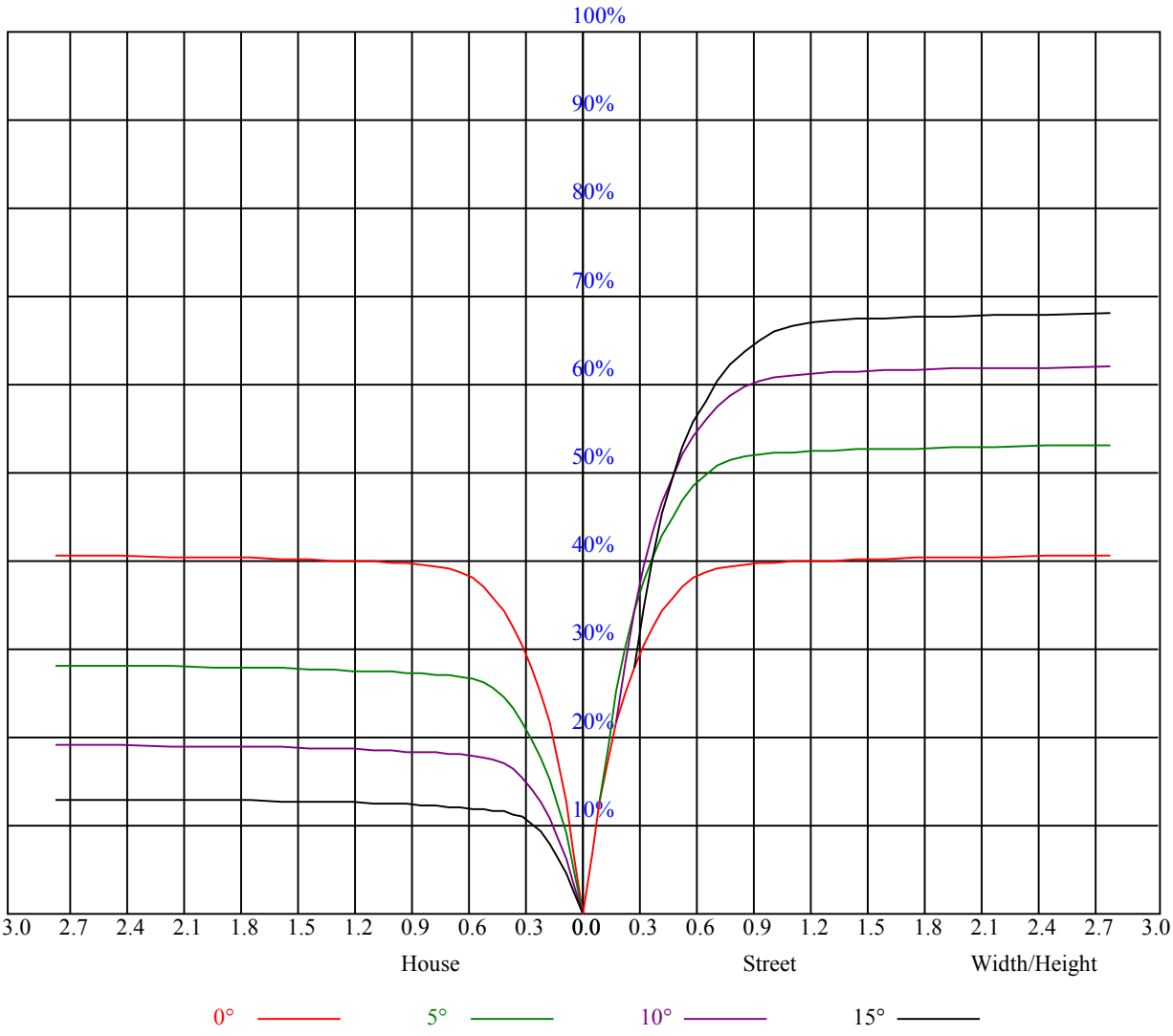


Equipment: GMS1980 Date: 2019/12/25 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

Utilization factor table for indoor luminaire

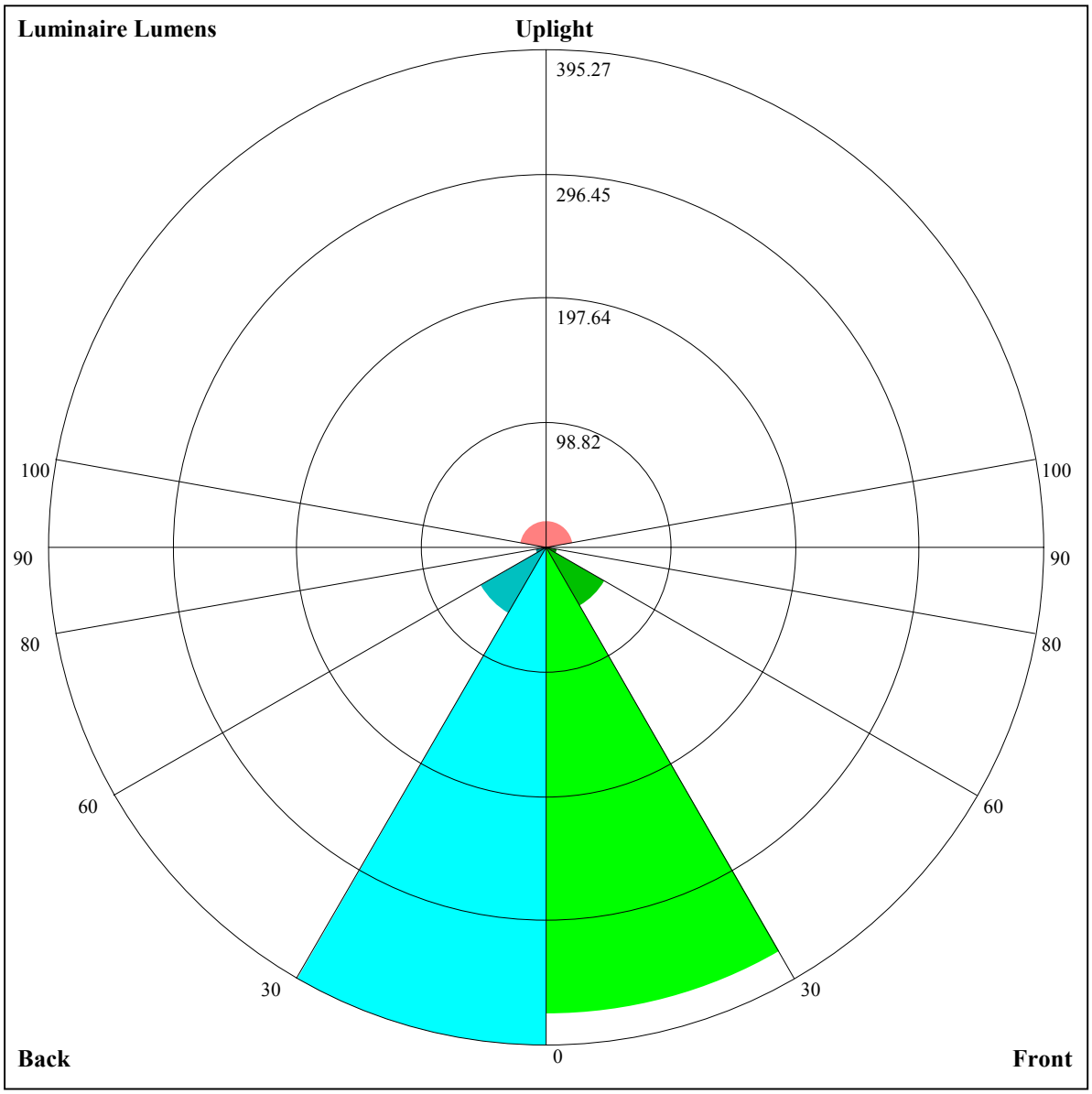
RHOCC	80			70			50			30			10			0
RHOW	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	COEFFCIENTS OF UTILIZATION RHOFC=20 CU															
0	0.98	0.98	0.98	0.95	0.95	0.95	0.91	0.91	0.91	0.87	0.87	0.87	0.84	0.84	0.84	0.82
1	0.91	0.90	0.88	0.90	0.88	0.86	0.86	0.85	0.84	0.83	0.82	0.81	0.81	0.80	0.79	0.78
2	0.86	0.83	0.81	0.85	0.82	0.80	0.82	0.80	0.78	0.80	0.78	0.76	0.77	0.76	0.75	0.74
3	0.82	0.78	0.75	0.80	0.77	0.75	0.78	0.76	0.73	0.76	0.74	0.72	0.75	0.73	0.71	0.70
4	0.77	0.74	0.71	0.77	0.73	0.70	0.75	0.72	0.69	0.73	0.71	0.69	0.72	0.70	0.68	0.67
5	0.74	0.70	0.67	0.73	0.69	0.67	0.72	0.68	0.66	0.70	0.68	0.65	0.69	0.67	0.65	0.64
6	0.71	0.67	0.64	0.70	0.66	0.63	0.69	0.66	0.63	0.68	0.65	0.63	0.67	0.64	0.62	0.61
7	0.68	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.60	0.65	0.62	0.60	0.64	0.62	0.60	0.59
8	0.65	0.61	0.58	0.65	0.61	0.58	0.64	0.60	0.58	0.63	0.60	0.58	0.62	0.60	0.57	0.57
9	0.63	0.59	0.56	0.62	0.58	0.56	0.62	0.58	0.56	0.61	0.58	0.56	0.60	0.57	0.55	0.54
10	0.60	0.57	0.54	0.60	0.56	0.54	0.60	0.56	0.54	0.59	0.56	0.54	0.58	0.56	0.53	0.53

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2019/12/25	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

LCS Graph



Luminaire Lumens:

FL=371,FM=54.41,FH=8.48,FVH=2.69

BL=395.27,BM=60.41,BH=8.88,BVH=2.75

UL=4.64,UH=22.09

BUG Rating:B1-U2-G0

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	4829.63	4802.06	4620.38	4298.06	3948.19	3500.44	3027.38	2619.00	2282.63
45.0	4608.00	4344.19	3971.81	3585.94	3129.75	2674.13	2280.38	1905.19	1653.75
90.0	4620.94	4373.44	4080.94	3666.94	3220.31	2819.81	2427.19	1984.50	1701.00
135.0	4789.69	4715.44	4489.88	4181.63	3845.81	3411.00	2957.63	2570.63	2206.69
180.0	4829.63	4727.81	4519.13	4210.88	3814.31	3408.75	2995.88	2497.50	2128.50
225.0	4636.13	4791.38	4819.50	4694.06	4474.69	4182.19	3827.81	3321.56	2914.88
270.0	4620.94	4748.06	4755.38	4601.25	4348.13	3999.38	3573.00	3165.19	2768.06
315.0	4789.69	4738.50	4550.06	4219.88	3840.19	3451.50	3038.06	2545.31	2178.56
360.0	4829.63	4802.06	4620.38	4298.06	3948.19	3500.44	3027.38	2619.00	2282.63

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1845.00	1611.56	1451.25	1251.56	1139.06	1054.69	954.00	878.06	825.75
45.0	1429.88	1253.25	1123.88	1032.75	912.38	841.50	785.81	716.63	673.31
90.0	1494.00	1285.31	1113.36	1050.58	953.61	873.45	812.76	754.26	708.53
135.0	1822.50	1598.06	1421.44	1256.63	1123.88	1027.69	939.38	862.88	807.19
180.0	1834.88	1568.25	1396.13	1254.94	1110.15	1020.15	941.40	874.01	808.48
225.0	2518.31	2061.56	1771.31	1554.19	1357.31	1110.77	1086.19	985.56	906.53
270.0	2288.25	1954.69	1700.44	1473.75	1296.00	1167.75	1054.13	960.75	889.88
315.0	1873.13	1590.75	1416.94	1276.31	1110.04	1043.44	966.54	889.76	832.78
360.0	1845.00	1611.56	1451.25	1251.56	1139.06	1054.69	954.00	878.06	825.75

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	762.75	721.69	684.56	642.94	612.56	583.88	551.25	526.50	502.88
45.0	636.75	592.88	556.31	532.13	498.38	473.63	450.00	422.44	397.69
90.0	664.09	627.19	596.81	565.26	535.39	512.33	490.73	463.22	440.27
135.0	752.06	709.31	664.88	627.75	596.81	567.00	538.31	514.13	490.50
180.0	753.13	712.63	672.13	635.23	604.80	573.53	547.82	519.69	492.92
225.0	830.93	770.63	723.49	678.49	637.03	605.25	575.44	542.76	519.36
270.0	821.25	768.38	720.56	678.38	642.94	607.50	572.06	546.75	523.13
315.0	774.56	724.78	686.42	646.20	610.26	579.83	552.38	523.01	495.84
360.0	762.75	721.69	684.56	642.94	612.56	583.88	551.25	526.50	502.88

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	472.50	446.06	416.81	374.63	325.13	289.13	218.14	164.53	122.18
45.0	372.38	331.31	290.81	285.75	193.73	152.55	115.14	76.84	54.28
90.0	414.62	371.87	328.39	281.48	221.91	175.78	133.76	89.16	64.80
135.0	462.38	437.63	403.88	357.19	302.63	289.69	197.66	139.39	100.07
180.0	468.56	438.13	399.77	358.82	312.02	249.30	198.79	151.93	105.53
225.0	496.52	471.43	446.29	420.69	386.83	344.36	300.71	247.56	200.59
270.0	493.88	468.56	444.94	415.13	375.75	334.69	288.00	226.58	181.63
315.0	472.73	447.30	408.21	369.84	324.68	264.99	216.23	169.03	120.71
360.0	472.50	446.06	416.81	374.63	325.13	289.13	218.14	164.53	122.18

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	83.42	57.99	39.04	27.90	24.08	21.43	19.58	18.39	17.44
45.0	37.80	27.45	24.19	21.99	20.64	19.41	18.17	16.99	16.20
90.0	42.30	28.35	24.75	21.60	19.63	18.68	17.49	16.20	15.58
135.0	64.18	41.85	28.35	23.63	20.81	19.29	17.78	16.76	15.75
180.0	69.58	47.70	32.51	25.48	22.16	20.03	18.73	17.44	16.31
225.0	151.31	107.33	75.49	50.51	35.10	27.79	24.64	22.16	20.87
270.0	140.74	100.63	68.34	47.70	33.19	27.23	24.13	22.33	21.09
315.0	80.89	55.63	38.31	28.74	25.09	22.50	20.98	19.52	18.45
360.0	83.42	57.99	39.04	27.90	24.08	21.43	19.58	18.39	17.44

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	16.14	15.41	14.79	14.23	13.73	13.28	12.83	12.60	12.54
45.0	15.47	15.02	14.74	14.46	14.12	14.01	13.89	13.89	13.95
90.0	15.02	14.40	13.95	13.50	13.11	12.83	12.71	12.71	12.94
135.0	14.74	14.12	13.61	13.16	12.71	12.26	12.04	11.98	11.98
180.0	15.47	14.85	14.23	13.84	13.50	13.11	12.99	12.94	13.11
225.0	19.80	18.84	17.89	17.21	16.65	16.09	15.58	15.08	14.79
270.0	19.74	18.68	17.83	17.16	16.54	16.26	15.81	15.30	14.74
315.0	17.44	16.48	15.53	14.85	14.29	13.56	13.05	12.77	12.60
360.0	16.14	15.41	14.79	14.23	13.73	13.28	12.83	12.60	12.54

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	12.49	12.60	12.71	12.66	12.60	12.71	12.77	12.66	12.15
45.0	13.84	13.67	13.39	13.39	13.22	12.94	12.21	11.36	10.74
90.0	13.16	13.44	13.56	13.95	14.01	14.06	13.44	12.54	11.76
135.0	12.09	12.09	12.32	12.38	12.77	12.77	12.99	12.32	11.59
180.0	13.28	13.22	13.28	13.33	13.50	13.39	13.61	13.11	12.43
225.0	14.79	15.08	15.24	15.47	15.53	15.41	15.36	15.24	15.13
270.0	14.40	14.18	13.95	13.78	13.56	13.33	13.16	12.88	12.71
315.0	12.49	12.54	12.49	12.49	12.38	12.66	12.77	12.77	12.21
360.0	12.49	12.60	12.71	12.66	12.60	12.71	12.77	12.66	12.15

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	11.25	10.63	10.01	9.56	8.94	8.61	8.33	8.04	7.20
45.0	10.13	9.62	9.17	8.83	8.38	7.99	7.43	7.20	6.98
90.0	10.97	10.29	9.45	9.06	8.78	8.33	7.48	7.20	6.98
135.0	11.08	10.24	9.90	9.39	8.94	8.94	8.78	7.54	7.20
180.0	11.76	11.14	10.46	9.84	9.45	9.00	8.55	7.43	7.09
225.0	14.63	13.50	12.43	11.59	10.69	10.13	9.68	9.11	8.83
270.0	12.32	11.42	10.74	10.13	9.51	9.11	8.72	8.49	7.99
315.0	11.42	10.80	10.07	9.68	9.11	8.72	8.49	8.21	7.37
360.0	11.25	10.63	10.01	9.56	8.94	8.61	8.33	8.04	7.20

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	6.98	6.81	6.75	6.47	6.36	6.24	6.02	5.91	5.74
45.0	6.75	6.53	6.36	6.19	6.02	5.91	5.68	5.51	5.34
90.0	6.75	6.58	6.41	6.24	6.08	5.91	5.74	5.57	5.40
135.0	7.03	6.86	6.69	6.58	6.41	6.19	6.08	5.85	5.68
180.0	6.92	6.75	6.53	6.47	6.30	6.13	6.02	5.85	5.68
225.0	7.82	7.31	7.14	6.98	6.75	6.58	6.47	6.30	6.13
270.0	7.54	7.20	7.03	6.92	6.69	6.58	6.47	6.30	6.19
315.0	7.09	6.98	6.69	6.53	6.36	6.24	6.13	6.02	5.85
360.0	6.98	6.81	6.75	6.47	6.36	6.24	6.02	5.91	5.74

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	5.57	5.40	5.29	5.12	5.01	4.84	4.56	4.39	4.33
45.0	5.18	5.01	4.89	4.78	4.44	4.33	4.28	4.28	4.22
90.0	5.23	5.06	4.95	4.78	4.50	4.39	4.28	4.22	4.22
135.0	5.51	5.34	5.18	5.01	4.89	4.73	4.50	4.39	4.22
180.0	5.57	5.46	5.23	5.06	4.95	4.78	4.44	4.33	4.16
225.0	6.02	5.85	5.68	5.57	5.46	5.29	5.18	5.06	4.44
270.0	6.08	5.91	5.74	5.63	5.46	5.23	5.06	4.95	4.44
315.0	5.68	5.57	5.40	5.23	5.06	4.95	4.73	4.56	4.39
360.0	5.57	5.40	5.29	5.12	5.01	4.84	4.56	4.39	4.33

Intensity data(cd)

C/γ(°)	90.0
0.0	4.28
45.0	4.22
90.0	4.22
135.0	4.16
180.0	4.16
225.0	4.33
270.0	4.33
315.0	4.33
360.0	4.28