NATA LIGHTING CO.,LTD.
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Address:380JinOu Road,GaoXin Zone,Jiang Men City,Guangdong,China

NATA

Client:
LumCAT: 1653-S
Luminaire: 92.70.046.00

Report No: nt0100	Voltage(V): 34.2000
Test No: GC2020010811	Current(A): 0.3070
LampCAT: LUMINUS CLM-9-AA40	Power (W): 10.5000
Lamp flux(lm): 1288.0	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): 1098.23, Efficiency(%): 85.27% , Luminous Efficacy(lm/W): 104.59
Central intensity(cd): 3248.578, Maximum intensity(cd): 3248.578
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=27.4
[C90/270]Total=27.4
Field angle(10%Imax): [C0/180]Total=62.0
[C90/270]Total=62.0
Maximum s/h(1/2): C0_180=0.46 C90_270=0.46
Maximum s/h(1/4): C0_180=0.49 C90_270=0.49
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 85.27%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.012%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	3248.578	0.000	0	.000%	.000%
1.0	3245.133	3.107	3.107	.241%	.283%
2.0	3230.508	9.294	12.402	.722%	1.129%
3.0	3202.945	15.387	27.788	1.195%	2.530%
4.0	3161.461	21.304	49.092	1.654%	4.470%
5.0	3085.383	26.874	75.966	2.086%	6.917%
6.0	2993.203	31.945	107.91	2.480%	9.826%
7.0	2871.211	36.400	144.31	2.826%	13.140%
8.0	2719.477	40.011	184.322	3.106%	16.784%
9.0	2542.992	42.649	226.971	3.311%	20.667%
10.0	2351.180	44.290	271.262	3.439%	24.700%
11.0	2146.430	44.940	316.202	3.489%	28.792%
12.0	1952.367	44.806	361.008	3.479%	32.872%
13.0	1761.047	44.069	405.077	3.421%	36.885%
14.0	1569.164	42.626	447.703	3.310%	40.766%
15.0	1412.009	40.927	488.63	3.178%	44.493%
16.0	1278.928	39.430	528.06	3.061%	48.083%
17.0	1149.455	37.816	565.876	2.936%	51.526%
18.0	1038.614	36.077	601.953	2.801%	54.811%
19.0	955.737	34.698	636.65	2.694%	57.971%
20.0	869.864	33.414	670.064	2.594%	61.013%
21.0	795.825	31.985	702.049	2.483%	63.926%
22.0	734.934	30.761	732.81	2.388%	66.727%
23.0	676.491	29.616	762.425	2.299%	69.423%
24.0	627.504	28.510	790.935	2.214%	72.019%
25.0	581.105	27.481	818.416	2.134%	74.522%
26.0	539.170	26.444	844.861	2.053%	76.929%
27.0	492.560	25.242	870.102	1.960%	79.228%
28.0	451.020	23.889	893.992	1.855%	81.403%
29.0	406.287	22.430	916.421	1.741%	83.445%
30.0	367.678	20.897	937.318	1.622%	85.348%
31.0	325.983	19.304	956.622	1.499%	87.106%
32.0	284.084	17.478	974.099	1.357%	88.697%
33.0	248.245	15.683	989.782	1.218%	90.125%
34.0	212.822	13.953	1003.735	1.083%	91.396%
35.0	177.279	12.115	1015.85	.941%	92.499%
36.0	146.081	10.296	1026.146	.799%	93.437%
37.0	118.807	8.639	1034.785	.671%	94.223%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	92.327	7.047	1041.833	.547%	94.865%
39.0	67.830	5.467	1047.299	.424%	95.363%
40.0	51.117	4.148	1051.448	.322%	95.740%
41.0	37.730	3.164	1054.612	.246%	96.028%
42.0	28.624	2.411	1057.022	.187%	96.248%
43.0	23.013	1.913	1058.935	.149%	96.422%
44.0	19.455	1.603	1060.538	.124%	96.568%
45.0	16.755	1.392	1061.93	.108%	96.695%
46.0	14.934	1.239	1063.169	.096%	96.808%
47.0	13.535	1.132	1064.301	.088%	96.911%
48.0	12.691	1.060	1065.362	.082%	97.007%
49.0	11.918	1.011	1066.372	.078%	97.099%
50.0	11.257	0.966	1067.338	.075%	97.187%
51.0	10.800	0.933	1068.272	.072%	97.272%
52.0	10.441	0.911	1069.183	.071%	97.355%
53.0	10.181	0.897	1070.08	.070%	97.437%
54.0	9.977	0.889	1070.969	.069%	97.518%
55.0	9.886	0.887	1071.855	.069%	97.599%
56.0	9.914	0.895	1072.75	.069%	97.680%
57.0	9.893	0.906	1073.656	.070%	97.763%
58.0	9.788	0.910	1074.566	.071%	97.845%
59.0	9.731	0.913	1075.478	.071%	97.929%
60.0	9.654	0.916	1076.394	.071%	98.012%
61.0	9.450	0.912	1077.306	.071%	98.095%
62.0	9.260	0.902	1078.207	.070%	98.177%
63.0	9.049	0.890	1079.098	.069%	98.258%
64.0	8.768	0.874	1079.972	.068%	98.338%
65.0	8.543	0.857	1080.829	.067%	98.416%
66.0	8.262	0.838	1081.667	.065%	98.492%
67.0	7.952	0.815	1082.483	.063%	98.566%
68.0	7.636	0.790	1083.272	.061%	98.638%
69.0	7.334	0.764	1084.036	.059%	98.708%
70.0	7.116	0.742	1084.778	.058%	98.775%
71.0	6.926	0.726	1085.504	.056%	98.841%
72.0	6.764	0.712	1086.215	.055%	98.906%
73.0	6.680	0.703	1086.918	.055%	98.970%
74.0	6.588	0.698	1087.616	.054%	99.034%
75.0	6.504	0.692	1088.308	.054%	99.097%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	6.420	0.686	1088.994	.053%	99.159%
77.0	6.398	0.683	1089.677	.053%	99.221%
78.0	6.469	0.689	1090.366	.053%	99.284%
79.0	6.532	0.699	1091.065	.054%	99.348%
80.0	6.553	0.705	1091.77	.055%	99.412%
81.0	6.370	0.699	1092.469	.054%	99.476%
82.0	6.173	0.680	1093.149	.053%	99.538%
83.0	6.202	0.673	1093.822	.052%	99.599%
84.0	6.272	0.680	1094.501	.053%	99.661%
85.0	6.342	0.688	1095.19	.053%	99.723%
86.0	5.913	0.670	1095.86	.052%	99.784%
87.0	5.885	0.646	1096.505	.050%	99.843%
88.0	5.196	0.607	1097.112	.047%	99.898%
89.0	5.070	0.563	1097.675	.044%	99.950%
90.0	5.013	0.553	1098.228	.043%	100.000%

Zonal flux distribution table

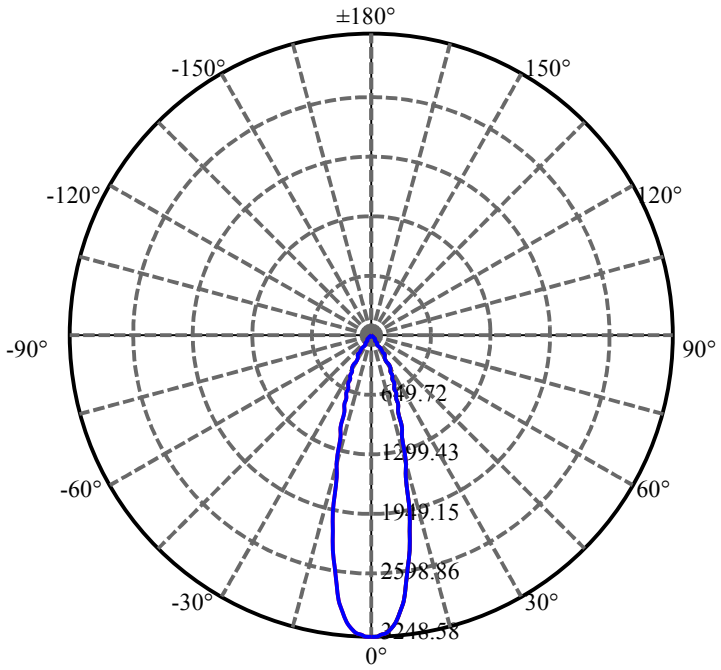
ZONAL LUMEN SUMMARY

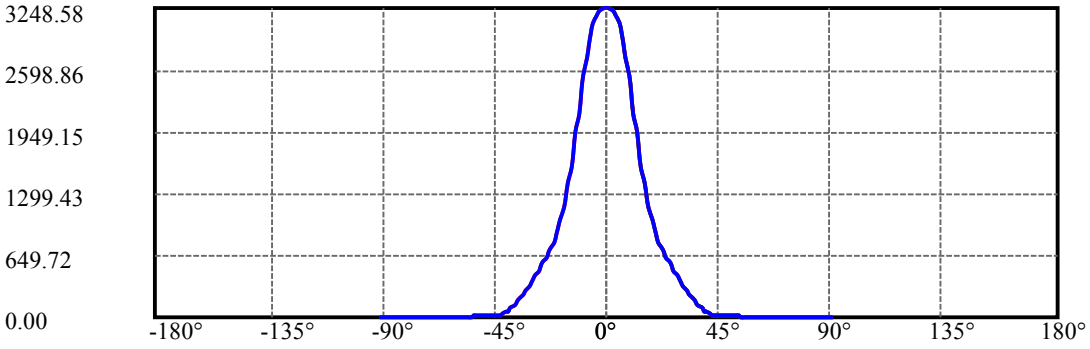
Zone	Lumens	%Lamp	%Fixt
0-30	937.32	72.77%	85.35%
0-40	1051.45	81.63%	95.74%
0-60	1076.39	83.57%	98.01%
0-90	1097.68	85.22%	99.95%
0-120	1097.68	85.22%	99.95%
0-180	1098.23	85.27%	100.00%
60-90	22.20	1.72%	2.02%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-27.35	878.58	68.21%	80.00%

ZONAL LUMEN SUMMARY

0-10	271.26
10-20	398.80
20-30	267.25
30-40	114.13
40-50	15.89
50-60	9.06
60-70	8.38
70-80	6.99
80-90	5.91
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):

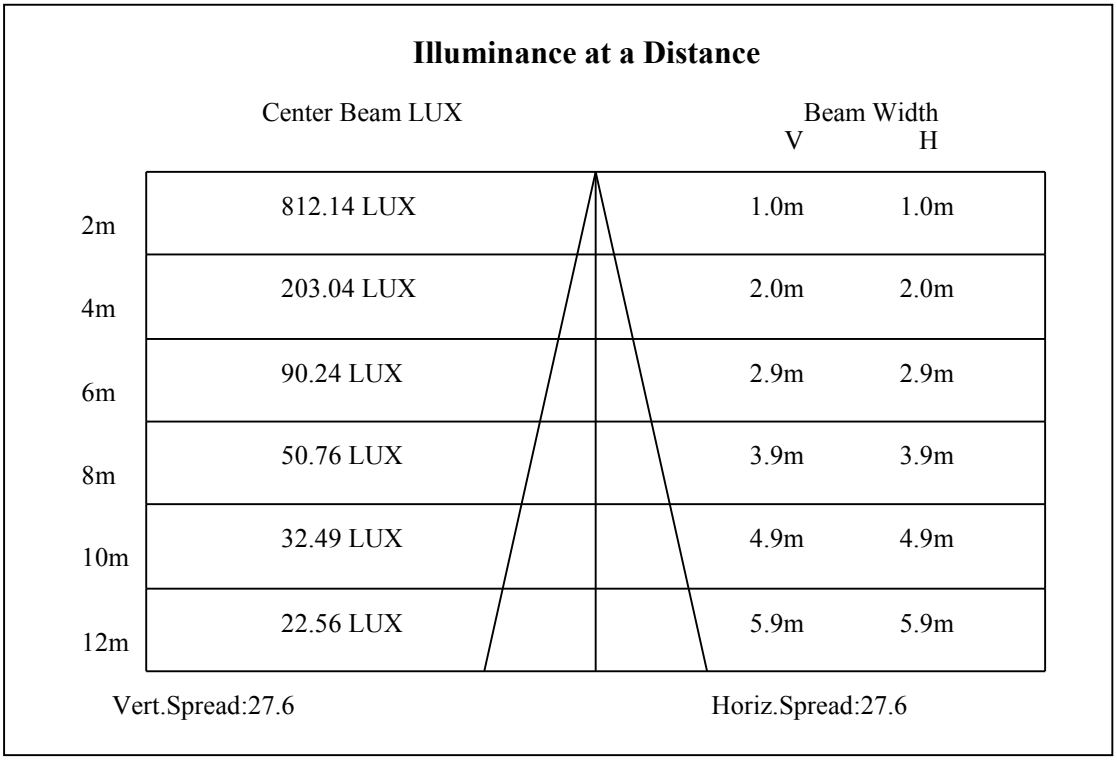
C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:31.0 Right:31.0
:C90/270Left:31.0 Right:31.0

Beam Angle(50%Imax):C0/180Left:13.7 Right:13.7
:C90/270Left:13.7 Right:13.7

Lux distance Curve

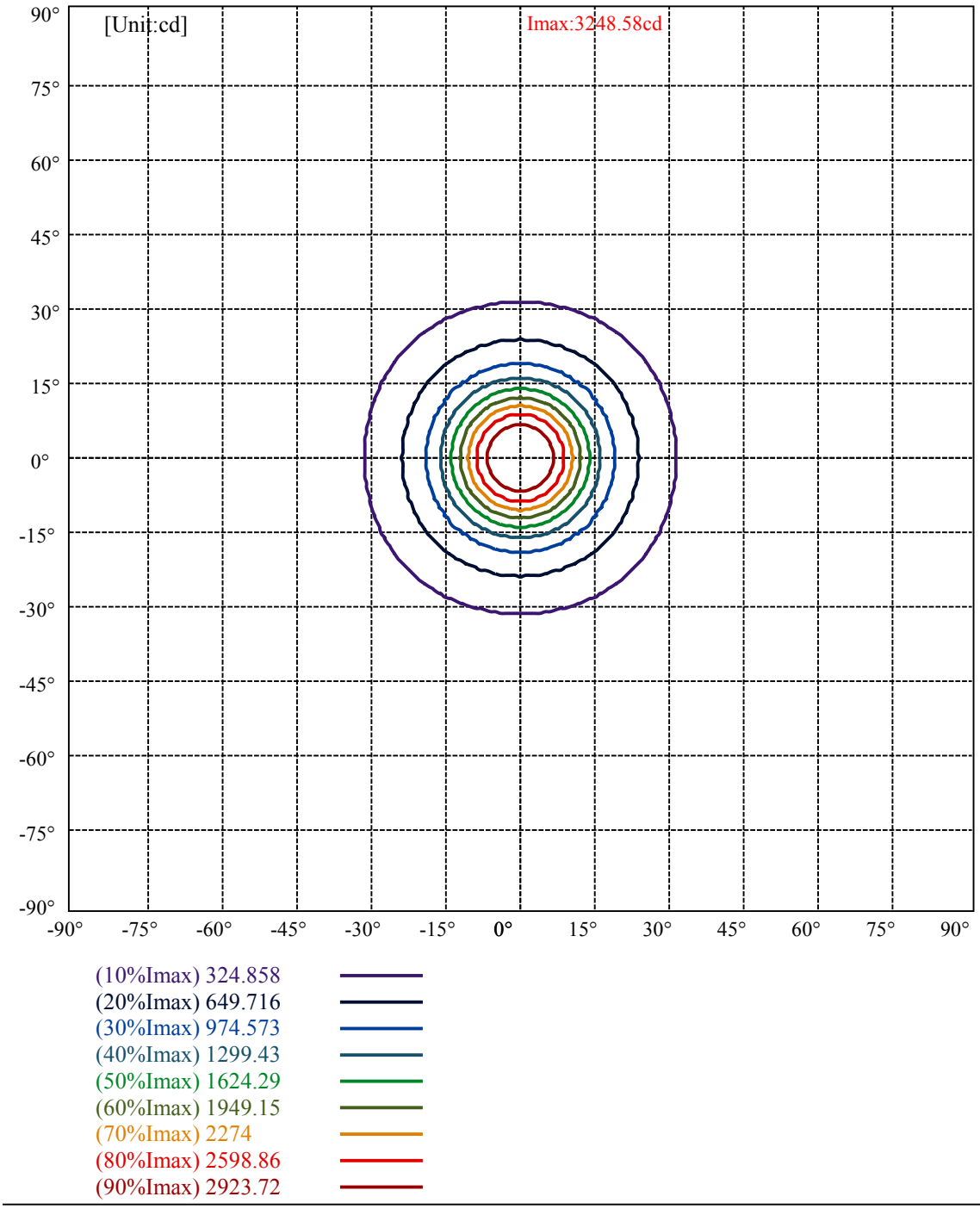


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/1/8
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO-Intensity(V-H)

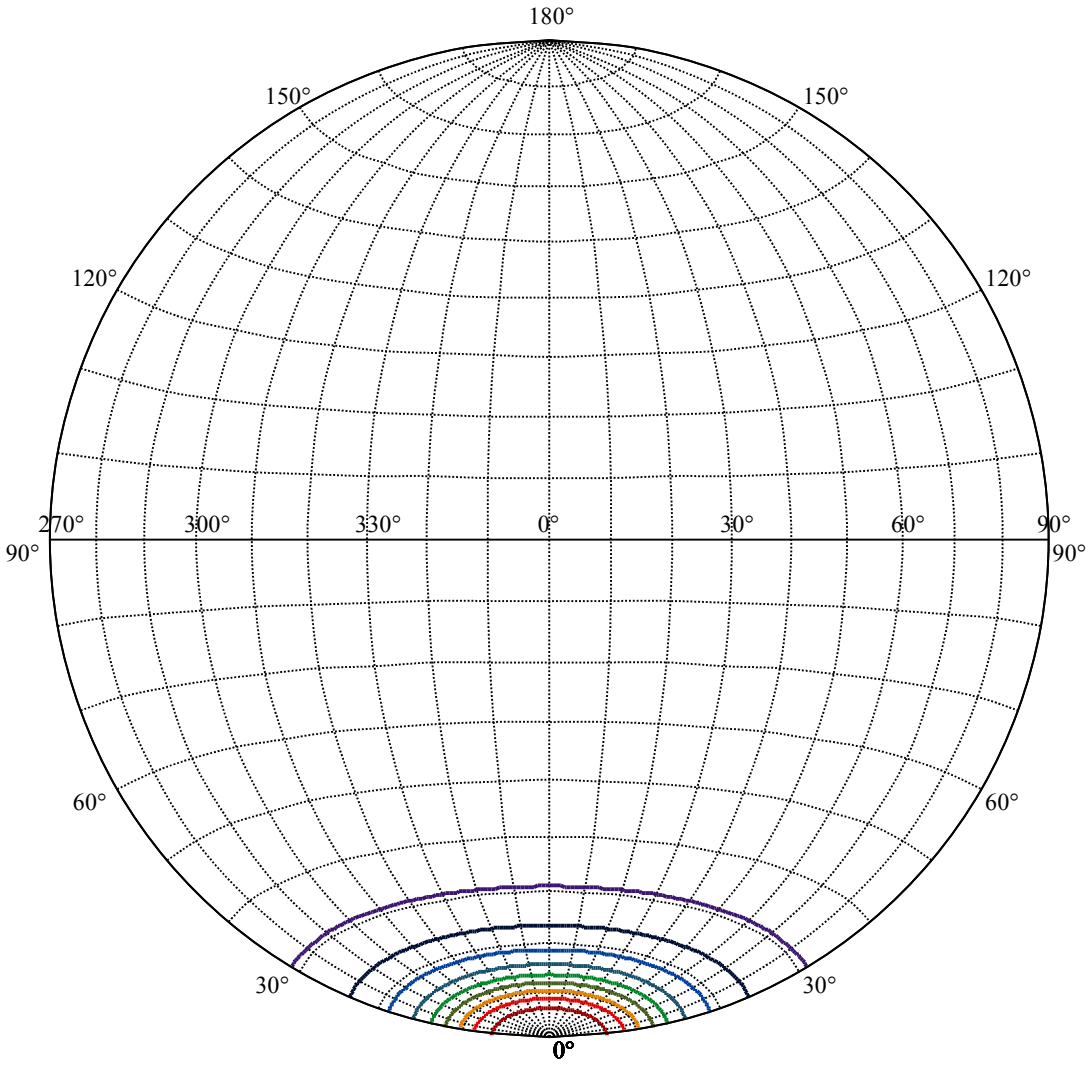


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/1/8
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:3248.58

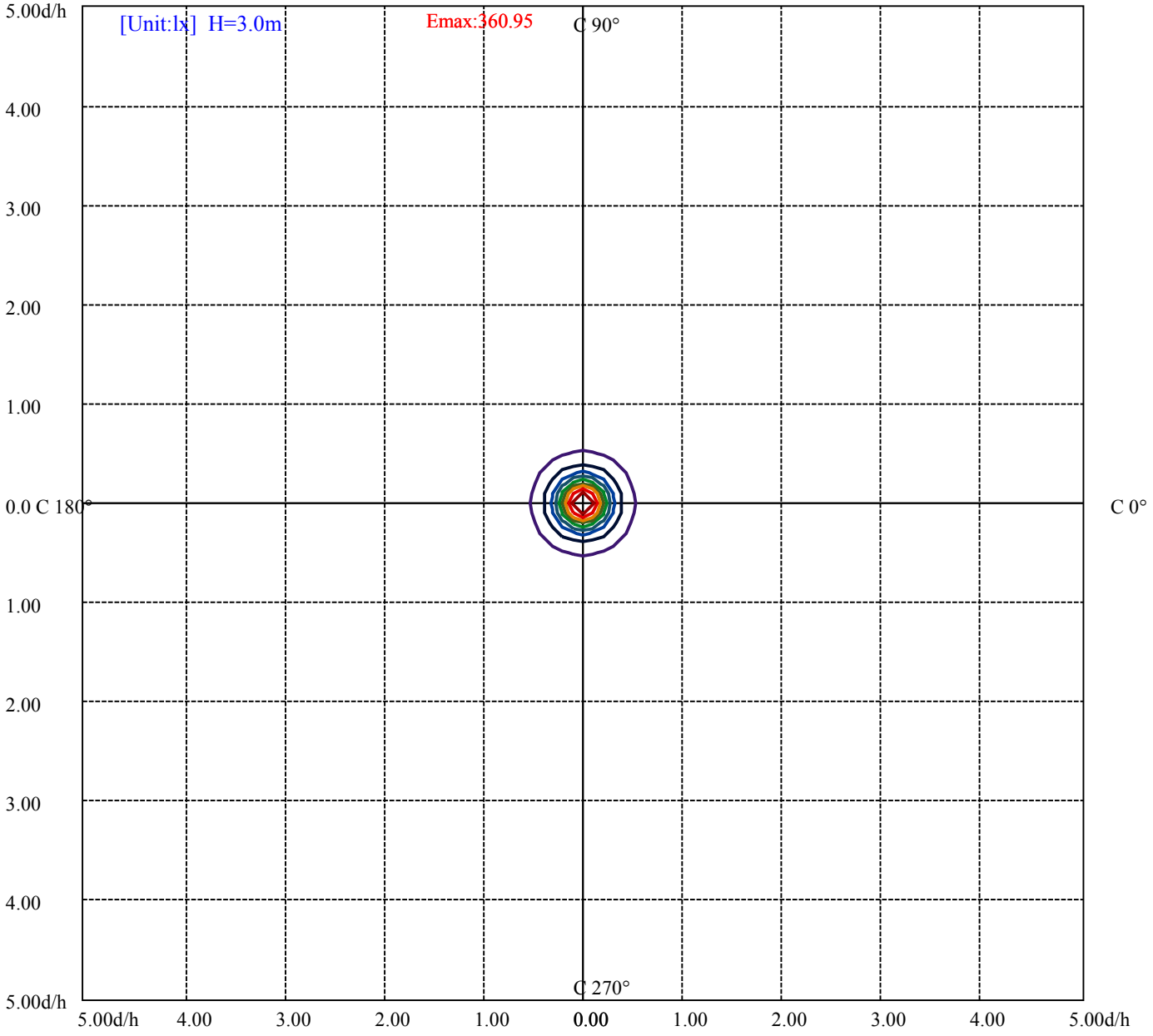
(10%Imax) 324.858
(20%Imax) 649.716
(30%Imax) 974.573
(40%Imax) 1299.43
(50%Imax) 1624.29
(60%Imax) 1949.15
(70%Imax) 2274
(80%Imax) 2598.86
(90%Imax) 2923.72

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/1/8
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO illuminance diagram

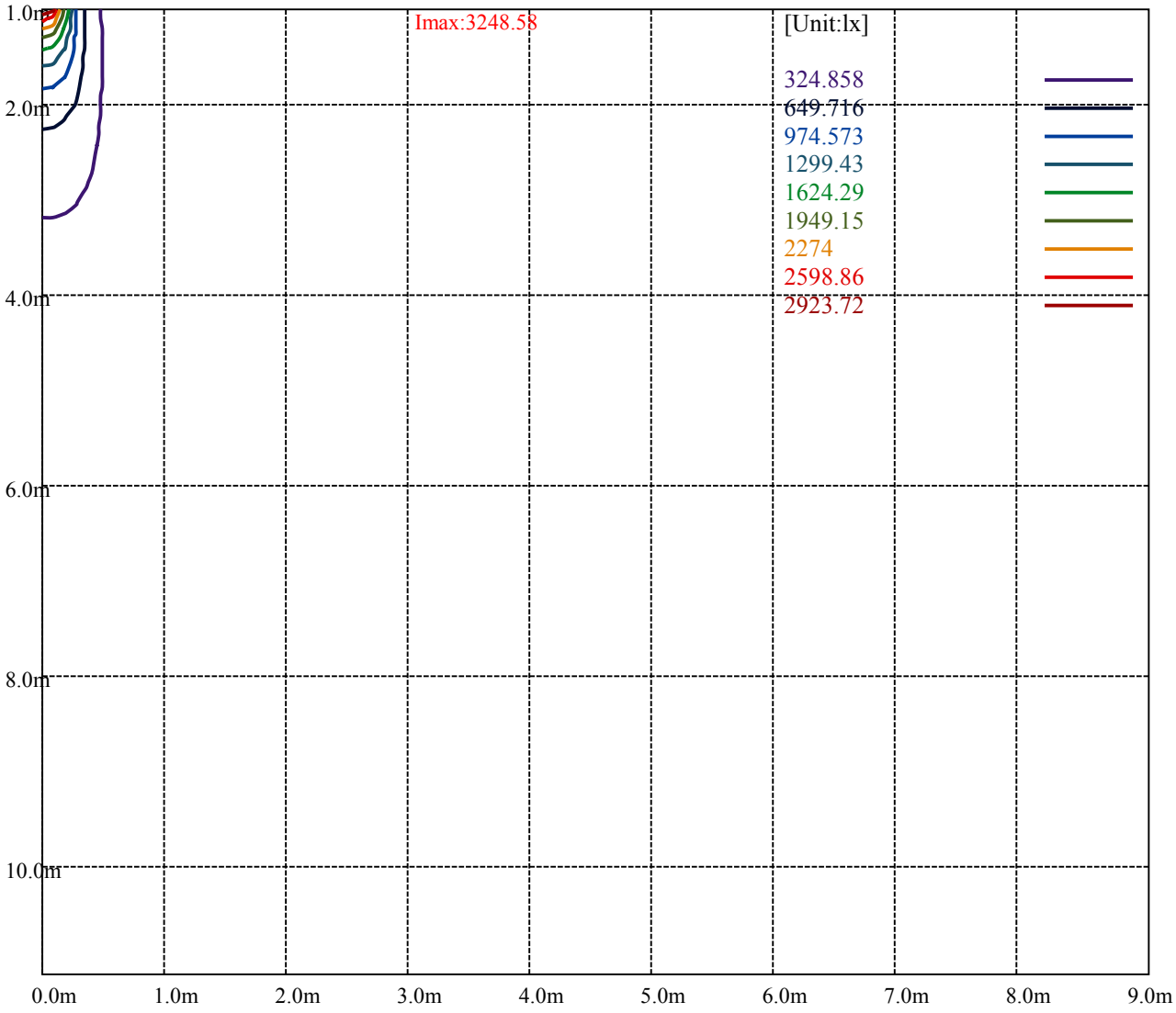


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/1/8
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2020/1/8
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Luminance Limitting Curve(no luminous side)

Luminance Table

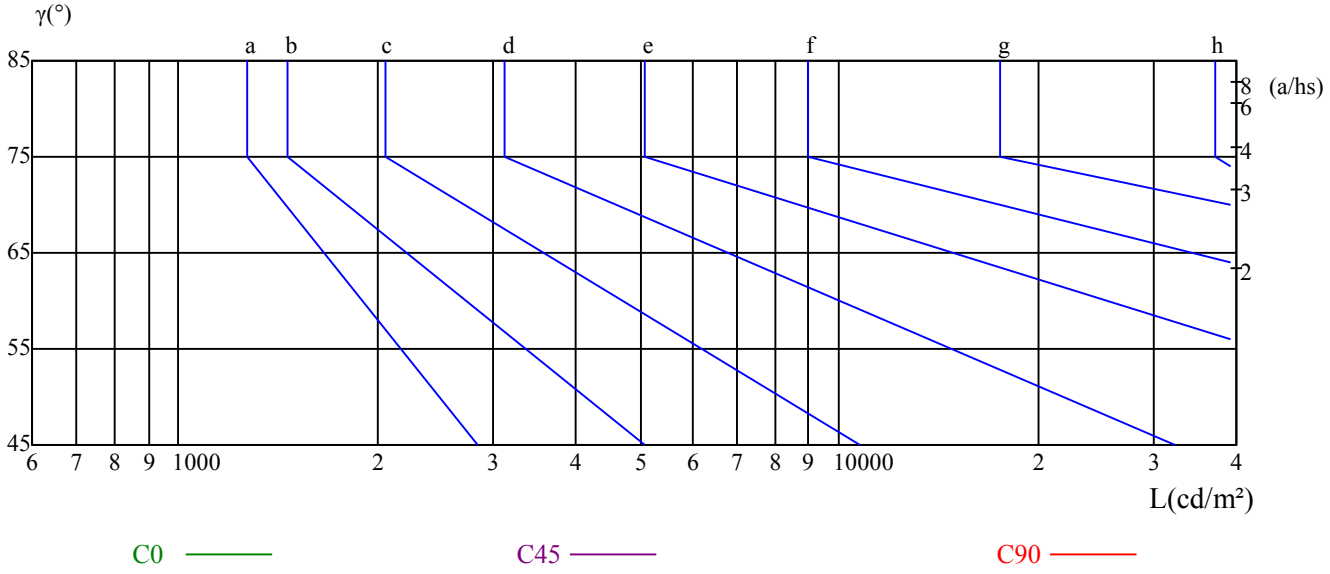
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

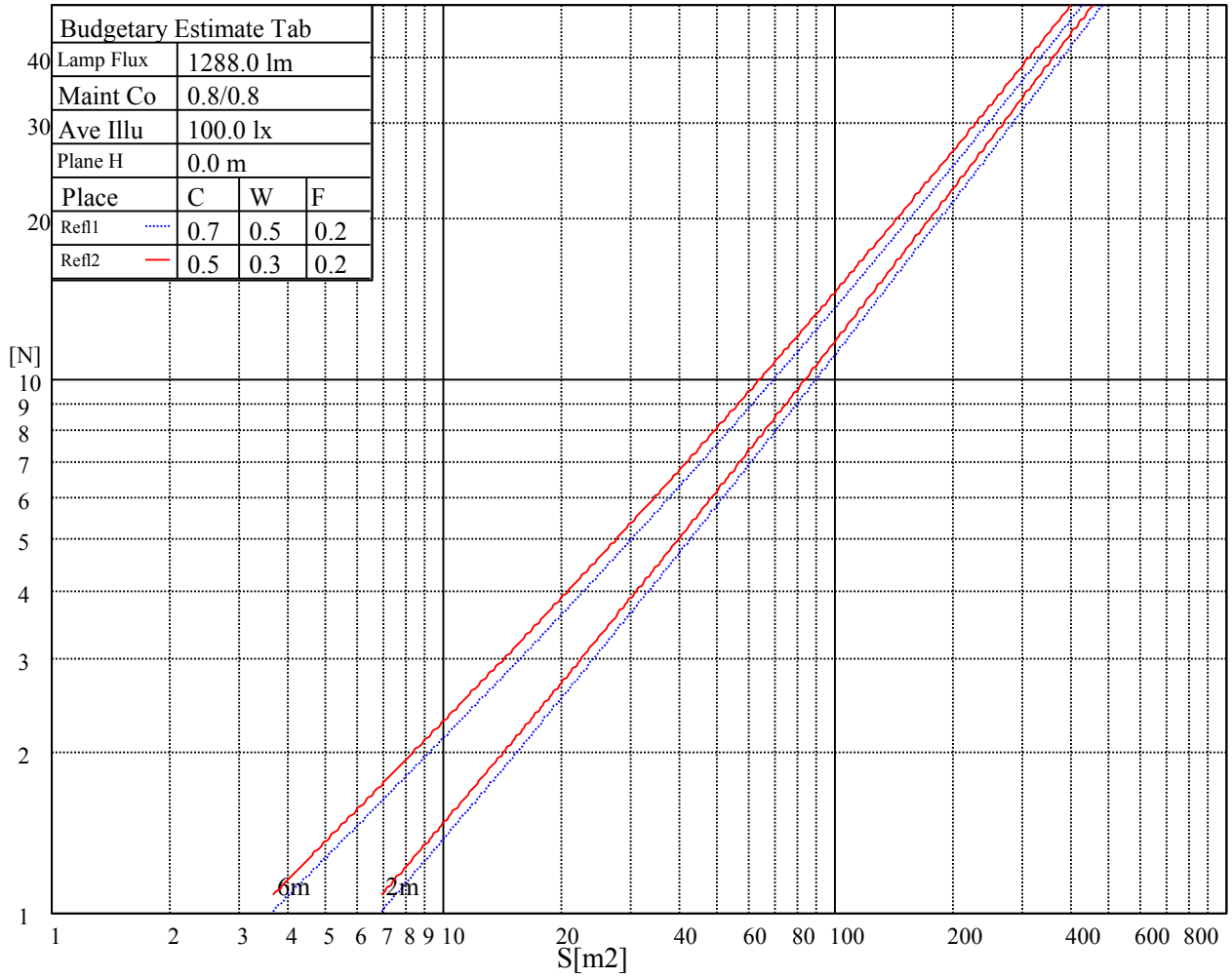
Glare Table

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

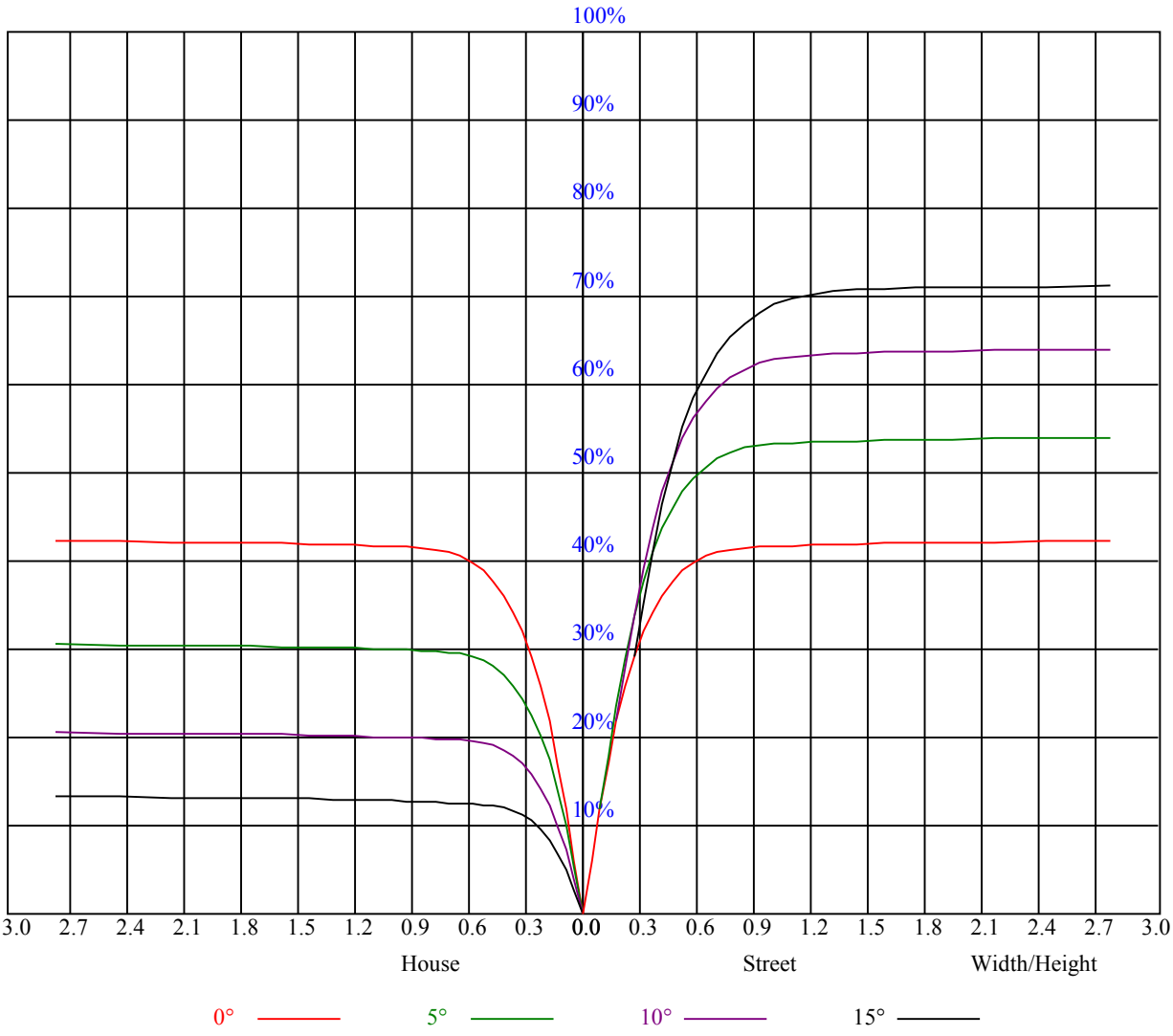


Equipment: GMS1980 Date: 2020/1/8 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

Utilization factor table for indoor luminaire

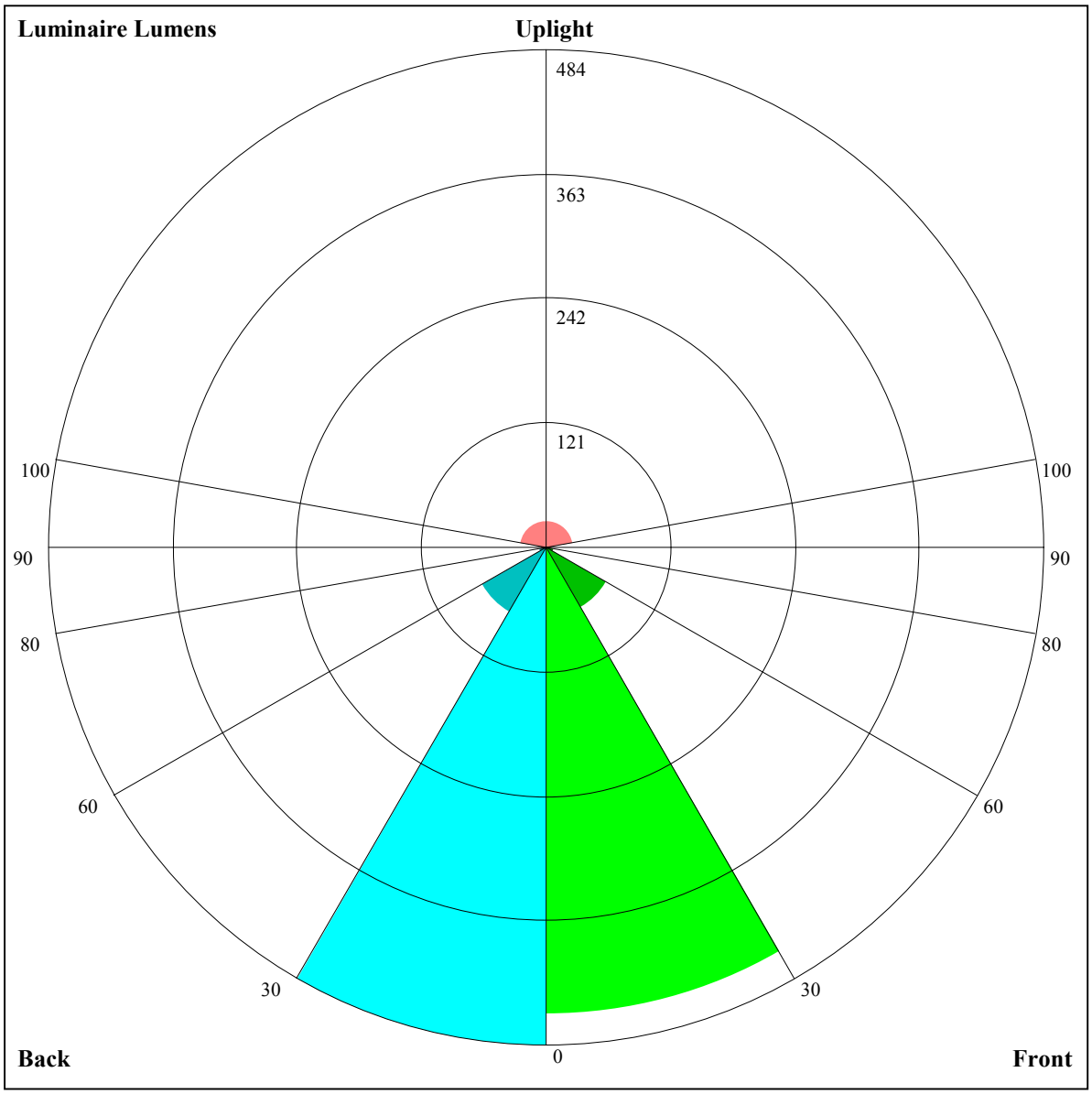
RHOCC	80			70			50			30			10			0
RHOW	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR	COEFFCIENTS OF UTILIZATION RHOFC=20 CU															
0	1.02	1.02	1.02	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.87	0.87	0.87	0.85
1	0.95	0.93	0.91	0.93	0.91	0.90	0.90	0.88	0.87	0.87	0.86	0.85	0.84	0.83	0.82	0.81
2	0.90	0.86	0.84	0.88	0.85	0.83	0.85	0.83	0.81	0.83	0.81	0.79	0.81	0.79	0.78	0.76
3	0.85	0.81	0.78	0.84	0.80	0.77	0.81	0.79	0.76	0.79	0.77	0.75	0.78	0.76	0.74	0.73
4	0.80	0.76	0.73	0.80	0.76	0.73	0.78	0.75	0.72	0.76	0.73	0.71	0.75	0.72	0.70	0.69
5	0.77	0.72	0.69	0.76	0.72	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.66
6	0.73	0.69	0.66	0.73	0.69	0.66	0.71	0.68	0.65	0.70	0.67	0.65	0.69	0.67	0.64	0.63
7	0.70	0.66	0.63	0.70	0.66	0.63	0.69	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.61
8	0.67	0.63	0.60	0.67	0.63	0.60	0.66	0.62	0.60	0.65	0.62	0.60	0.64	0.61	0.59	0.58
9	0.65	0.60	0.58	0.64	0.60	0.58	0.64	0.60	0.57	0.63	0.60	0.57	0.62	0.59	0.57	0.56
10	0.62	0.58	0.55	0.62	0.58	0.55	0.61	0.58	0.55	0.61	0.57	0.55	0.60	0.57	0.55	0.54

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2020/1/8	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

LCS Graph



Luminaire Lumens:

FL=453.51,FM=68.15,FH=7.54,FVH=3.09

BL=484,BM=72.61,BH=7.93,BVH=3.43

UL=5.47,UH=26.03

BUG Rating:B1-U2-G0

Equipment: GMS1980	Date: 2020/1/8	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	3251.25	3242.81	3223.69	3193.88	3152.81	3069.00	2946.94	2817.00	2664.00
45.0	3247.88	3223.69	3191.63	3145.50	3070.69	2936.25	2803.50	2643.75	2464.88
90.0	3240.56	3216.38	3178.69	3110.63	3017.25	2889.00	2746.13	2561.06	2350.13
135.0	3254.63	3246.19	3218.06	3186.00	3144.38	3040.31	2930.63	2815.31	2634.75
180.0	3251.25	3246.19	3234.38	3214.69	3184.31	3134.25	3054.38	2915.44	2781.00
225.0	3247.88	3261.38	3264.19	3255.75	3250.13	3225.94	3182.63	3108.94	3003.19
270.0	3240.56	3263.06	3278.81	3279.38	3261.38	3234.94	3207.38	3151.13	3052.69
315.0	3254.63	3261.38	3254.63	3237.75	3210.75	3153.38	3074.06	2957.06	2805.19
360.0	3251.25	3242.81	3223.69	3193.88	3152.81	3069.00	2946.94	2817.00	2664.00

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	2446.88	2253.94	2055.38	1837.13	1635.19	1466.44	1315.69	1182.38	1077.75
45.0	2230.31	2032.31	1839.38	1644.19	1470.38	1327.50	1188.56	1071.56	990.00
90.0	2154.94	1938.94	1737.00	1578.38	1437.75	1283.63	1120.44	1087.99	994.33
135.0	2442.94	2279.25	2052.00	1866.38	1699.31	1518.75	1390.50	1276.31	1156.50
180.0	2628.00	2401.31	2213.44	2023.31	1824.19	1641.38	1488.38	1337.63	1193.06
225.0	2882.81	2710.69	2511.56	2314.13	2108.81	1859.06	1672.31	1497.94	1328.63
270.0	2921.63	2781.00	2586.38	2387.81	2144.25	1908.56	1720.69	1520.44	1342.13
315.0	2636.44	2412.00	2176.31	1967.63	1768.50	1548.00	1399.50	1257.19	1113.24
360.0	2446.88	2253.94	2055.38	1837.13	1635.19	1466.44	1315.69	1182.38	1077.75

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	979.31	902.25	821.81	748.13	692.44	641.81	595.69	559.13	525.38
45.0	900.00	828.00	749.25	682.31	623.81	568.69	529.31	482.63	443.25
90.0	908.33	842.01	776.03	714.60	667.24	623.19	588.04	542.93	495.73
135.0	1069.88	987.19	892.69	832.50	779.06	706.50	657.56	615.38	565.31
180.0	1107.11	996.47	927.68	850.05	781.76	724.39	673.59	622.86	582.75
225.0	1120.22	1067.74	963.06	871.20	799.09	729.68	669.99	609.08	563.18
270.0	1206.56	1089.00	962.44	879.75	807.75	735.75	669.38	618.19	576.56
315.0	1017.51	933.24	865.97	788.06	728.33	681.92	636.47	598.67	561.21
360.0	979.31	902.25	821.81	748.13	692.44	641.81	595.69	559.13	525.38

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	470.25	428.06	389.81	351.56	307.13	286.88	238.28	199.07	172.35
45.0	390.94	353.81	317.25	285.75	235.91	204.81	175.73	148.44	127.41
90.0	452.03	411.19	360.96	323.10	283.39	238.05	204.92	173.03	138.99
135.0	517.50	472.50	426.94	384.75	340.31	288.00	263.93	210.15	167.91
180.0	538.99	496.01	441.00	399.04	356.79	306.34	269.49	229.16	195.36
225.0	521.72	475.37	432.34	396.23	359.83	311.85	276.36	242.21	201.94
270.0	532.69	491.63	446.63	407.81	369.00	325.13	291.38	268.03	218.14
315.0	516.38	479.59	435.38	393.19	355.50	311.63	265.89	232.48	196.14
360.0	470.25	428.06	389.81	351.56	307.13	286.88	238.28	199.07	172.35

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	146.25	116.94	88.43	64.18	43.48	33.02	27.00	22.56	19.01
45.0	103.89	87.24	71.72	54.23	41.51	35.16	28.74	24.19	21.32
90.0	106.09	80.33	56.98	35.27	25.09	19.58	15.81	12.66	11.48
135.0	137.93	109.01	78.08	55.18	39.94	25.26	18.90	15.47	11.93
180.0	160.20	127.46	99.45	70.37	48.82	30.99	22.39	17.83	14.46
225.0	171.45	144.51	113.18	90.73	76.44	58.39	46.18	34.65	29.25
270.0	189.39	162.45	133.82	107.27	85.67	65.59	45.68	36.06	30.77
315.0	153.45	122.51	96.98	65.42	47.98	33.86	24.30	20.70	17.44
360.0	146.25	116.94	88.43	64.18	43.48	33.02	27.00	22.56	19.01

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	16.65	15.24	14.34	13.67	12.77	12.21	11.76	11.53	11.53
45.0	18.73	17.04	15.64	14.29	13.22	12.43	11.70	11.25	10.97
90.0	10.86	10.41	10.01	9.68	9.39	9.06	8.89	8.66	8.49
135.0	10.07	9.56	9.23	8.94	8.61	8.38	8.21	7.99	7.88
180.0	11.53	10.01	9.39	9.06	8.78	8.49	8.33	8.10	7.99
225.0	25.82	22.05	18.28	16.88	15.36	13.67	12.88	12.15	11.36
270.0	26.16	22.33	19.13	17.21	15.69	14.63	13.67	12.94	12.32
315.0	14.23	12.83	12.26	11.81	11.53	11.19	10.97	10.91	10.91
360.0	16.65	15.24	14.34	13.67	12.77	12.21	11.76	11.53	11.53

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	11.42	11.31	11.64	11.76	11.08	10.91	10.69	10.13	9.56
45.0	10.74	10.69	10.80	10.80	10.80	10.69	10.35	9.96	9.51
90.0	8.38	8.27	8.21	8.16	8.10	8.10	8.10	8.10	8.04
135.0	7.71	7.65	7.59	7.54	7.54	7.48	7.48	7.48	7.48
180.0	7.88	7.76	7.71	7.71	7.65	7.65	7.65	7.71	7.82
225.0	10.69	10.41	10.29	10.24	10.52	10.97	11.25	11.64	12.04
270.0	11.98	12.04	11.98	12.04	12.15	12.21	11.98	11.59	11.31
315.0	11.03	10.97	11.08	10.91	10.46	9.84	9.73	9.00	8.33
360.0	11.42	11.31	11.64	11.76	11.08	10.91	10.69	10.13	9.56

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	9.23	8.83	8.44	8.10	7.48	7.14	6.98	6.53	6.36
45.0	8.89	8.21	7.93	7.54	7.31	7.20	7.03	6.98	6.92
90.0	7.99	7.99	7.82	7.65	7.48	7.37	7.14	7.09	7.03
135.0	7.48	7.48	7.48	7.43	7.37	7.31	7.26	7.20	7.09
180.0	7.93	7.99	8.10	8.16	8.04	7.82	7.59	7.37	7.03
225.0	12.21	11.93	11.42	10.80	10.07	9.06	8.27	7.82	7.43
270.0	10.80	10.01	9.62	9.11	8.66	8.16	7.59	7.37	7.14
315.0	7.88	7.71	7.54	7.31	7.20	7.03	6.81	6.58	6.41
360.0	9.23	8.83	8.44	8.10	7.48	7.14	6.98	6.53	6.36

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	6.24	6.13	6.02	5.91	5.85	5.79	5.74	5.63	5.63
45.0	6.86	6.75	6.69	6.58	6.47	6.47	6.36	6.24	6.13
90.0	6.98	6.92	6.86	6.81	6.75	6.92	7.54	8.04	7.71
135.0	6.98	6.92	6.81	6.69	6.64	6.64	7.03	7.59	8.10
180.0	6.92	6.81	6.75	6.69	6.64	6.58	6.53	6.53	6.81
225.0	7.09	7.09	7.03	6.98	6.92	6.86	6.81	6.69	6.64
270.0	6.75	6.64	6.47	6.36	6.19	6.08	5.96	5.85	5.79
315.0	6.30	6.19	6.08	6.02	5.91	5.85	5.79	5.68	5.63
360.0	6.24	6.13	6.02	5.91	5.85	5.79	5.74	5.63	5.63

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	5.57	5.46	5.46	5.46	5.51	5.12	5.06	5.01	5.01
45.0	6.02	5.91	5.91	5.85	5.79	5.12	5.01	4.95	4.95
90.0	6.86	7.20	7.48	7.71	7.88	5.34	5.18	4.95	4.95
135.0	7.93	6.69	6.98	7.31	7.59	7.88	7.93	5.18	5.12
180.0	6.81	6.58	6.47	6.75	7.03	7.14	7.31	5.23	5.12
225.0	6.47	6.36	6.24	6.19	6.08	6.02	6.02	5.85	5.12
270.0	5.74	5.63	5.63	5.51	5.51	5.46	5.40	5.23	5.12
315.0	5.57	5.57	5.46	5.40	5.34	5.23	5.18	5.18	5.18
360.0	5.57	5.46	5.46	5.46	5.51	5.12	5.06	5.01	5.01

Intensity data(cd)

C/γ(°)	90.0
0.0	4.95
45.0	4.89
90.0	4.95
135.0	4.95
180.0	5.01
225.0	5.06
270.0	5.12
315.0	5.18
360.0	4.95