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

NATA

Client:
LumCAT: 2-1678-M
Luminaire: 92.70.124.00

Report No: nt0100	Voltage(V): 33.5300
Test No: GC2019122317	Current(A): 0.2970
LampCAT: LUMINUS CXM-9-AC40	Power (W): 9.9500
Lamp flux(lm): 1036.0	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): 972.63, Efficiency(%): 93.88% , Luminous Efficacy(lm/W): 97.75
Central intensity(cd): 10750.500, Maximum intensity(cd): 10750.500
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=11.2
[C90/270]Total=11.2
Field angle(10%Imax): [C0/180]Total=21.6
[C90/270]Total=21.6
Maximum s/h(1/2): C0_180=0.20 C90_270=0.20
Maximum s/h(1/4): C0_180=0.20 C90_270=0.20
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 93.88%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.578%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	10750.500	0.000	0	.000%	.000%
1.0	10545.539	10.190	10.19	.984%	1.048%
2.0	9961.664	29.434	39.624	2.841%	4.074%
3.0	8954.930	45.242	84.866	4.367%	8.725%
4.0	7699.500	55.748	140.614	5.381%	14.457%
5.0	6302.461	60.236	200.849	5.814%	20.650%
6.0	4839.680	58.555	259.404	5.652%	26.670%
7.0	3574.969	52.230	311.634	5.041%	32.040%
8.0	2632.922	44.429	356.062	4.288%	36.608%
9.0	1845.134	36.292	392.355	3.503%	40.340%
10.0	1347.012	28.888	421.242	2.788%	43.310%
11.0	1004.513	23.497	444.739	2.268%	45.726%
12.0	851.899	20.293	465.032	1.959%	47.812%
13.0	714.628	18.591	483.623	1.794%	49.723%
14.0	631.484	17.230	500.853	1.663%	51.495%
15.0	572.266	16.526	517.379	1.595%	53.194%
16.0	531.984	16.180	533.559	1.562%	54.858%
17.0	503.852	16.131	549.69	1.557%	56.516%
18.0	480.755	16.234	565.924	1.567%	58.185%
19.0	464.667	16.448	582.372	1.588%	59.876%
20.0	450.900	16.757	599.13	1.618%	61.599%
21.0	438.462	17.078	616.207	1.648%	63.355%
22.0	428.477	17.422	633.629	1.682%	65.146%
23.0	419.709	17.797	651.426	1.718%	66.976%
24.0	411.476	18.173	669.599	1.754%	68.844%
25.0	403.390	18.528	688.127	1.788%	70.749%
26.0	396.555	18.883	707.01	1.823%	72.691%
27.0	389.405	19.229	726.238	1.856%	74.668%
28.0	381.537	19.519	745.757	1.884%	76.675%
29.0	373.887	19.764	765.521	1.908%	78.707%
30.0	366.560	19.992	785.513	1.930%	80.762%
31.0	358.798	20.186	805.699	1.948%	82.837%
32.0	351.429	20.347	826.046	1.964%	84.929%
33.0	340.784	20.393	846.439	1.968%	87.026%
34.0	319.317	19.977	866.415	1.928%	89.080%
35.0	299.461	19.217	885.632	1.855%	91.056%
36.0	250.109	17.498	903.131	1.689%	92.855%
37.0	204.230	14.818	917.949	1.430%	94.378%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	148.563	11.776	929.724	1.137%	95.589%
39.0	100.666	8.507	938.231	.821%	96.464%
40.0	60.891	5.635	943.866	.544%	97.043%
41.0	33.912	3.376	947.242	.326%	97.390%
42.0	17.979	1.885	949.127	.182%	97.584%
43.0	11.313	1.085	950.212	.105%	97.695%
44.0	8.958	0.765	950.977	.074%	97.774%
45.0	7.446	0.630	951.607	.061%	97.839%
46.0	6.750	0.555	952.163	.054%	97.896%
47.0	6.363	0.522	952.684	.050%	97.950%
48.0	6.110	0.504	953.188	.049%	98.001%
49.0	5.927	0.494	953.683	.048%	98.052%
50.0	5.752	0.487	954.17	.047%	98.102%
51.0	5.590	0.480	954.649	.046%	98.152%
52.0	5.463	0.474	955.124	.046%	98.200%
53.0	5.323	0.469	955.593	.045%	98.249%
54.0	5.210	0.464	956.057	.045%	98.296%
55.0	5.119	0.461	956.518	.045%	98.344%
56.0	5.034	0.459	956.977	.044%	98.391%
57.0	4.950	0.457	957.434	.044%	98.438%
58.0	4.887	0.455	957.888	.044%	98.485%
59.0	4.809	0.453	958.342	.044%	98.531%
60.0	4.760	0.452	958.794	.044%	98.578%
61.0	4.711	0.452	959.246	.044%	98.624%
62.0	4.662	0.452	959.697	.044%	98.671%
63.0	4.620	0.451	960.149	.044%	98.717%
64.0	4.598	0.452	960.601	.044%	98.764%
65.0	4.563	0.453	961.055	.044%	98.810%
66.0	4.535	0.454	961.509	.044%	98.857%
67.0	4.507	0.455	961.963	.044%	98.904%
68.0	4.486	0.456	962.419	.044%	98.950%
69.0	4.465	0.457	962.875	.044%	98.997%
70.0	4.430	0.457	963.332	.044%	99.044%
71.0	4.416	0.457	963.789	.044%	99.091%
72.0	4.388	0.458	964.247	.044%	99.138%
73.0	4.388	0.459	964.706	.044%	99.186%
74.0	4.380	0.461	965.167	.044%	99.233%
75.0	4.366	0.462	965.629	.045%	99.281%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	4.359	0.463	966.092	.045%	99.328%
77.0	4.345	0.464	966.556	.045%	99.376%
78.0	4.331	0.464	967.021	.045%	99.424%
79.0	4.331	0.465	967.486	.045%	99.471%
80.0	4.324	0.467	967.953	.045%	99.519%
81.0	4.303	0.467	968.419	.045%	99.567%
82.0	4.303	0.467	968.886	.045%	99.615%
83.0	4.310	0.468	969.354	.045%	99.664%
84.0	4.282	0.468	969.822	.045%	99.712%
85.0	4.282	0.467	970.29	.045%	99.760%
86.0	4.275	0.468	970.758	.045%	99.808%
87.0	4.275	0.468	971.226	.045%	99.856%
88.0	4.275	0.468	971.694	.045%	99.904%
89.0	4.247	0.467	972.161	.045%	99.952%
90.0	4.254	0.466	972.627	.045%	100.000%

Zonal flux distribution table

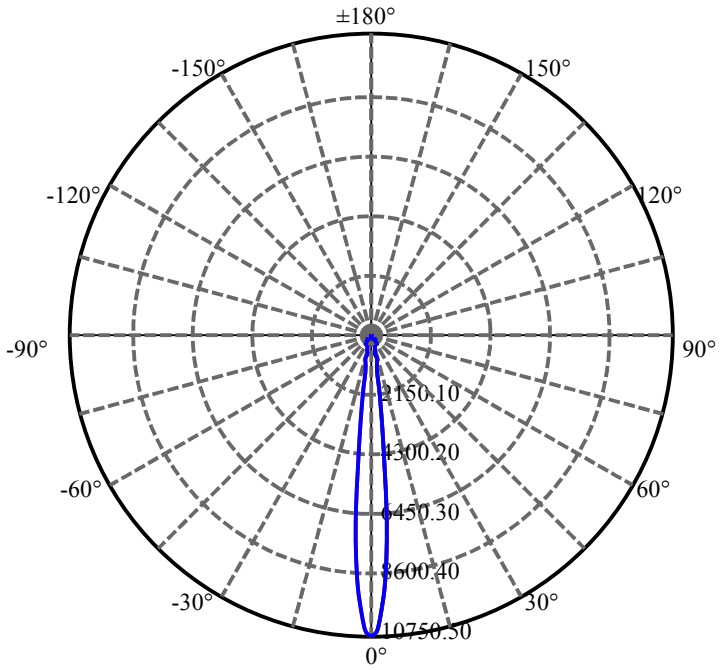
ZONAL LUMEN SUMMARY

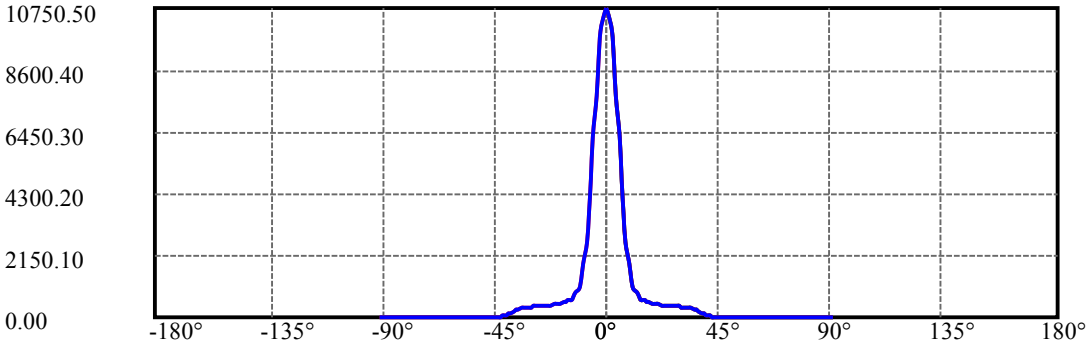
Zone	Lumens	%Lamp	%Fixt
0-30	785.51	75.82%	80.76%
0-40	943.87	91.11%	97.04%
0-60	958.79	92.55%	98.58%
0-90	972.16	93.84%	99.95%
0-120	972.16	93.84%	99.95%
0-180	972.63	93.88%	100.00%
60-90	13.82	1.33%	1.42%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-29.63	778.10	75.11%	80.00%

ZONAL LUMEN SUMMARY

0-10	421.24
10-20	177.89
20-30	186.38
30-40	158.35
40-50	10.30
50-60	4.62
60-70	4.54
70-80	4.62
80-90	4.21
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):

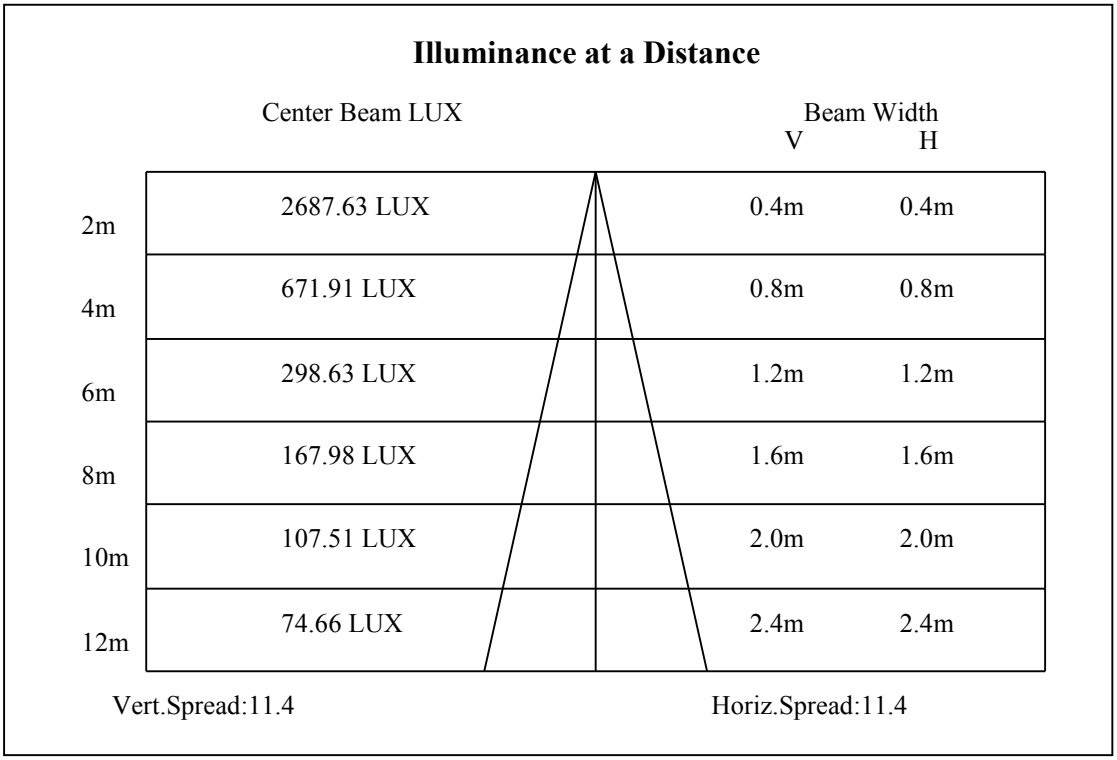
C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:10.8 Right:10.8
:C90/270Left:10.8 Right:10.8

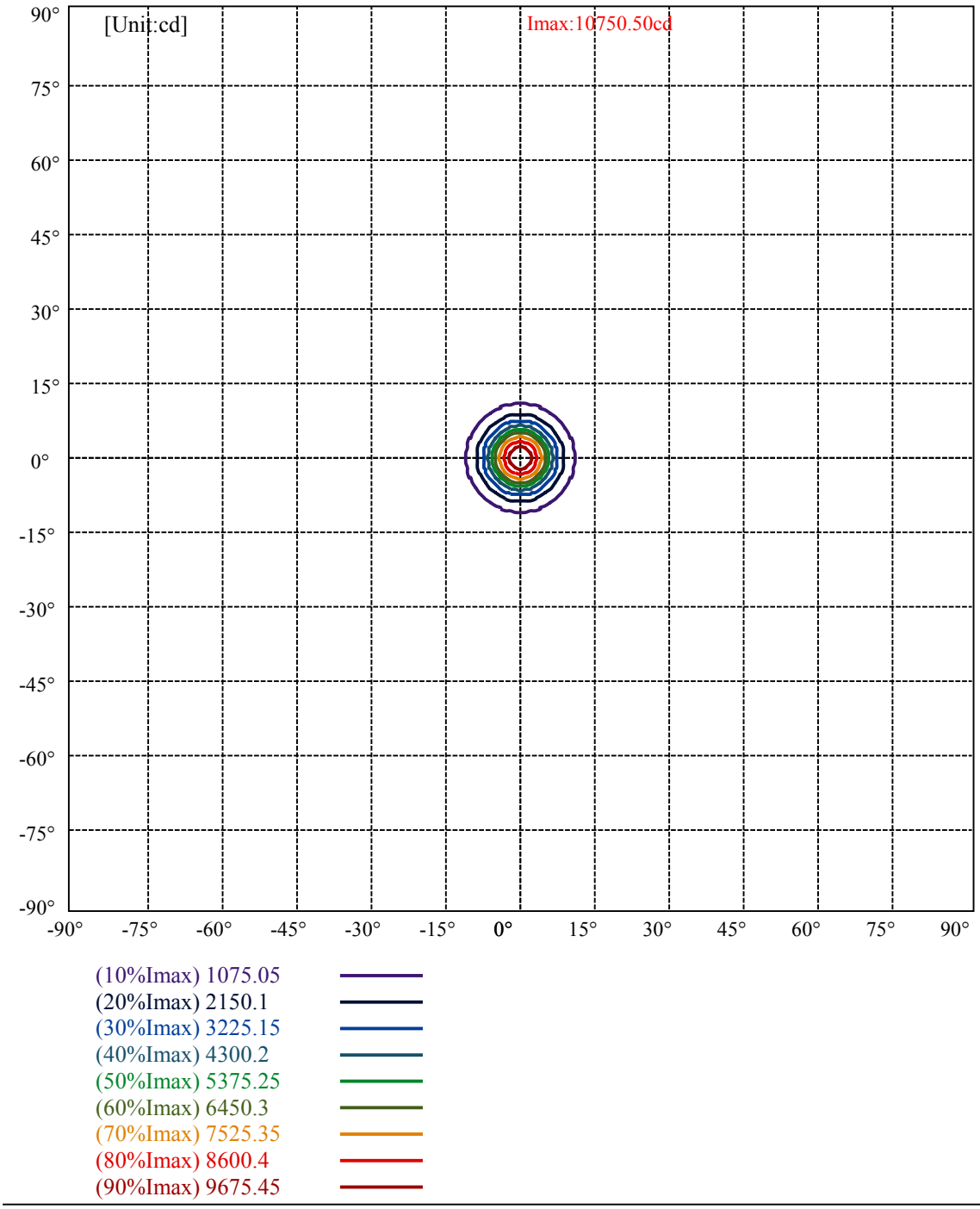
Beam Angle(50%Imax):C0/180Left:5.6 Right:5.6
:C90/270Left:5.6 Right:5.6

Lux distance Curve



Equipment: GMS1980 Date: 2019/12/23 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

ISO-Intensity(V-H)

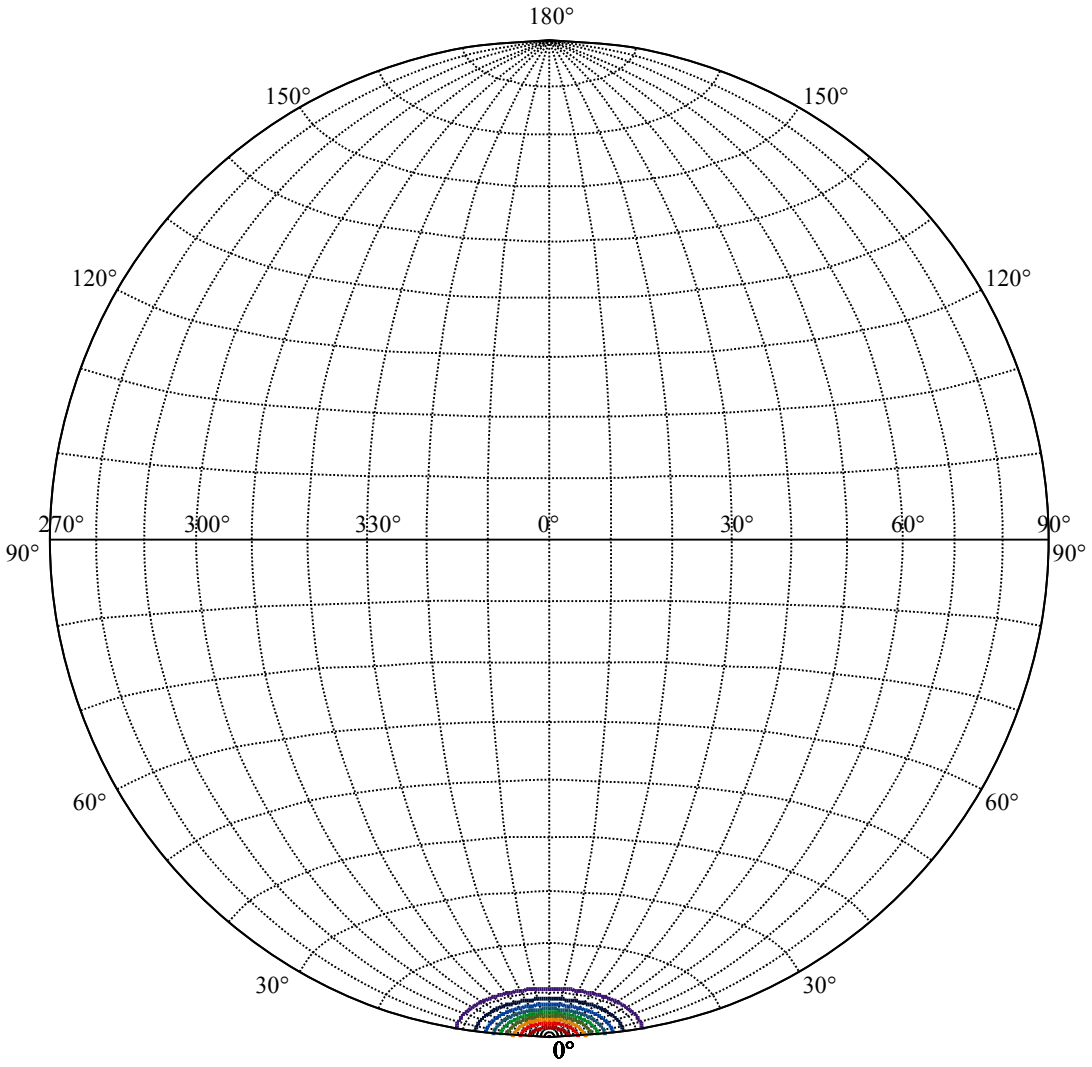


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/12/23
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



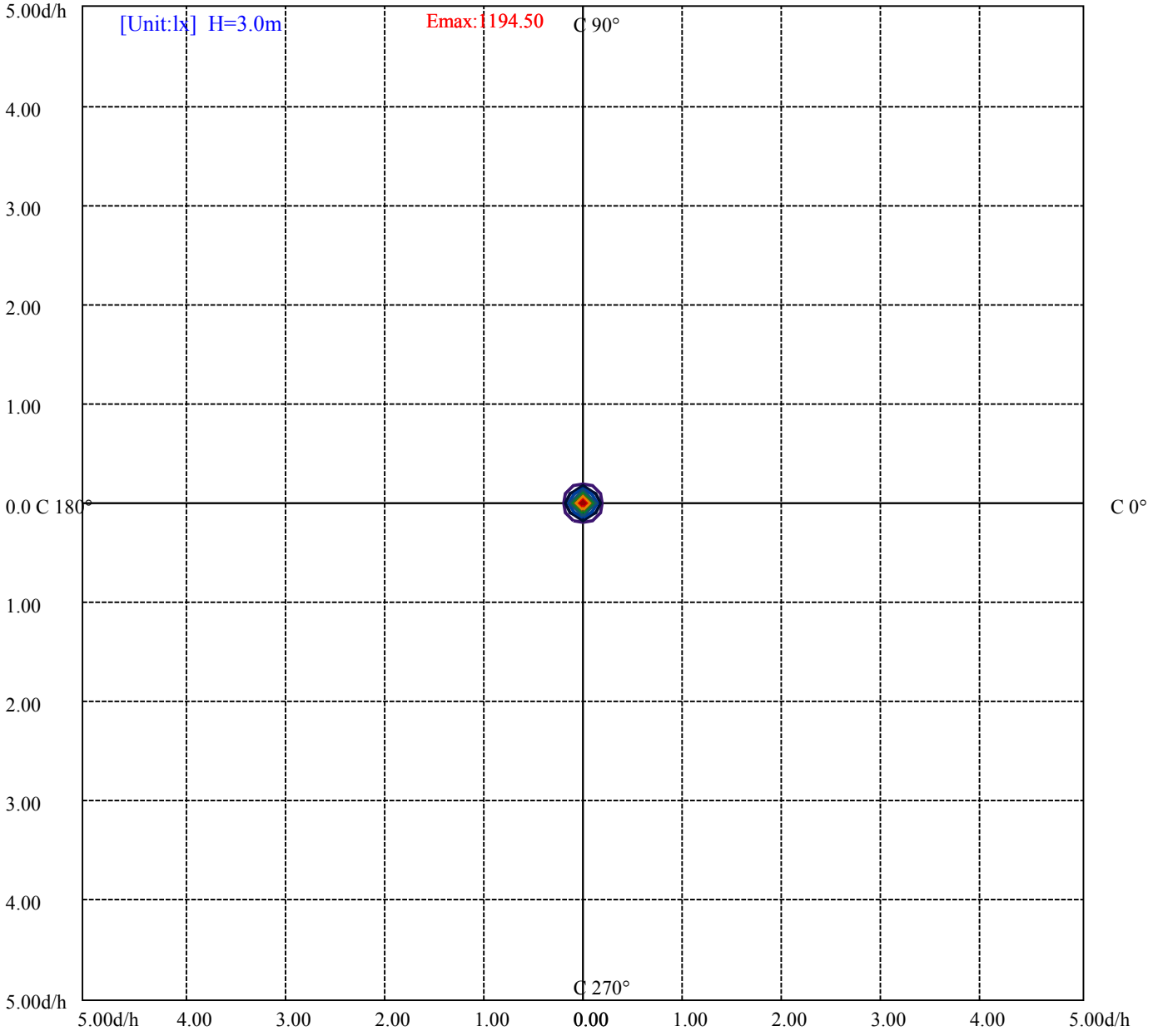
House [Unit:cd] Road

Imax:10750.50

(10%Imax) 1075.05
(20%Imax) 2150.1
(30%Imax) 3225.15
(40%Imax) 4300.2
(50%Imax) 5375.25
(60%Imax) 6450.3
(70%Imax) 7525.35
(80%Imax) 8600.4
(90%Imax) 9675.45

Equipment: GMS1980 Date: 2019/12/23 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

ISO illuminance diagram

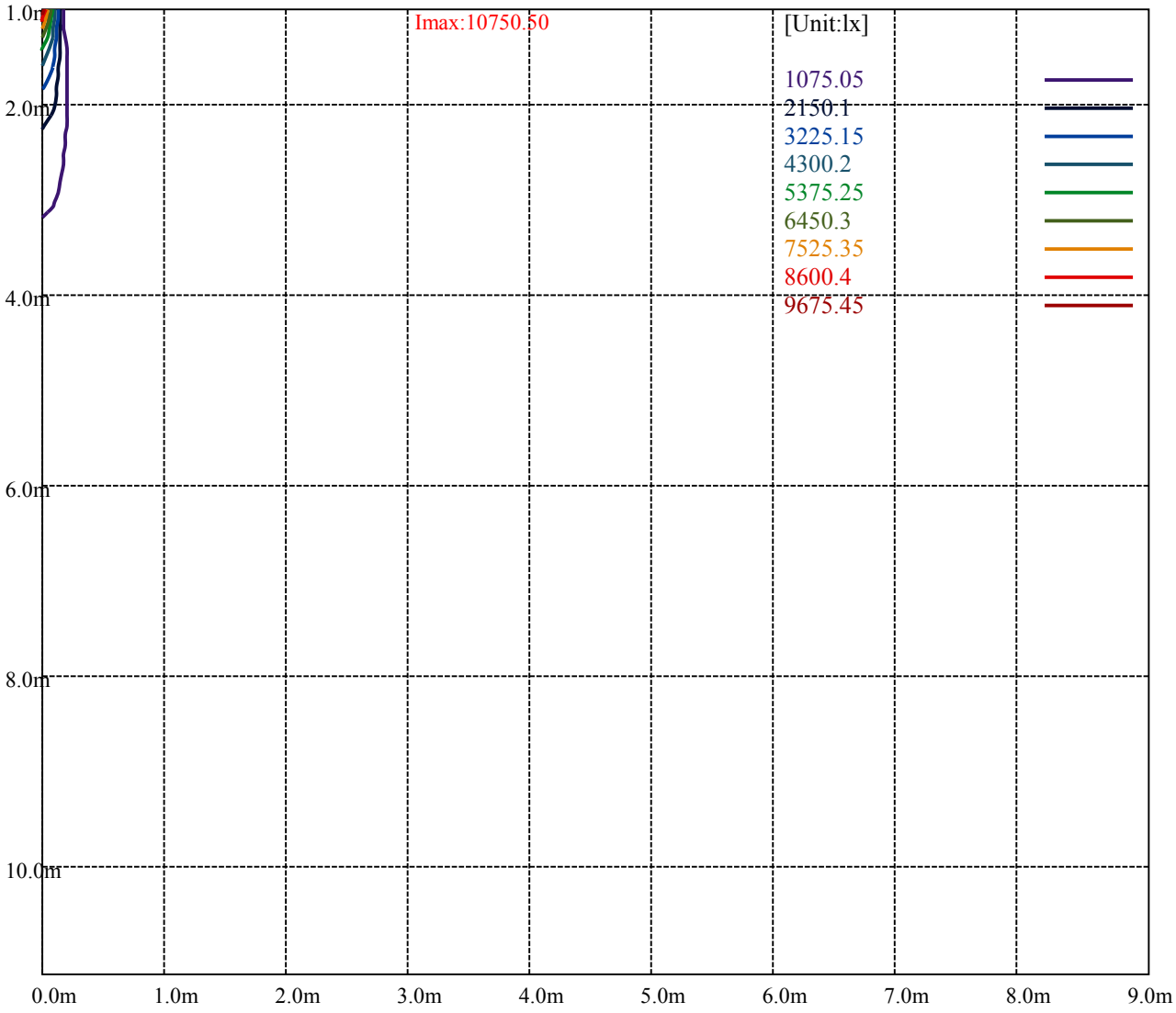


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/12/23
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/12/23
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Luminance Limitting Curve(no luminous side)

Luminance Table

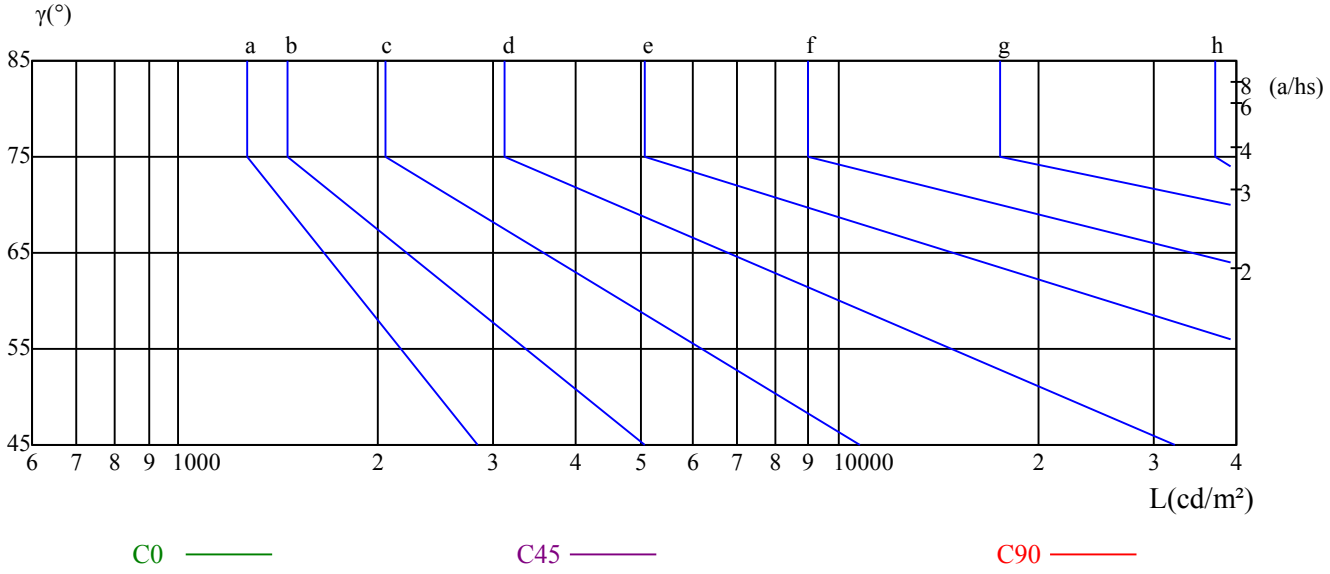
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

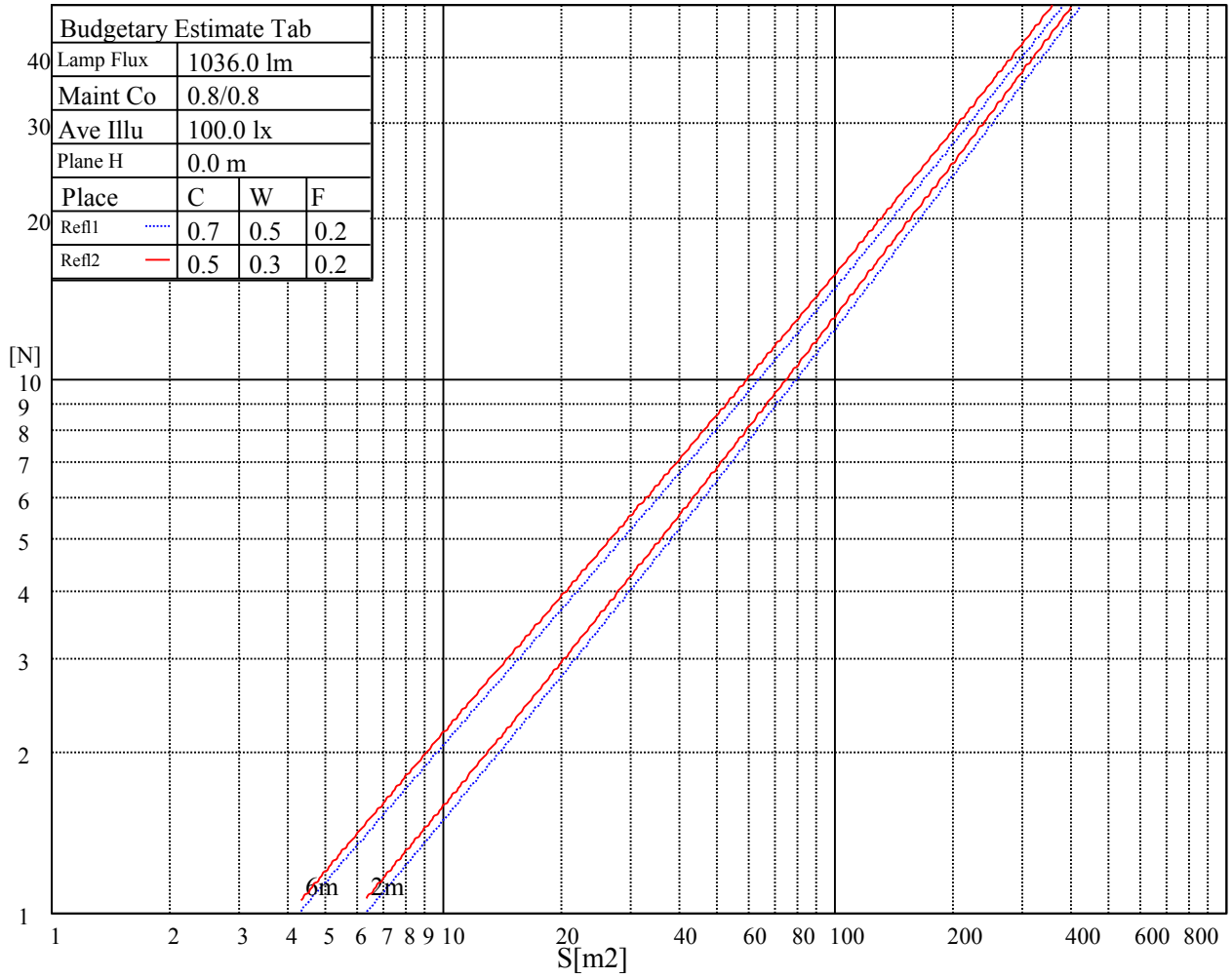


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/12/23
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Budgetary Estimate Table

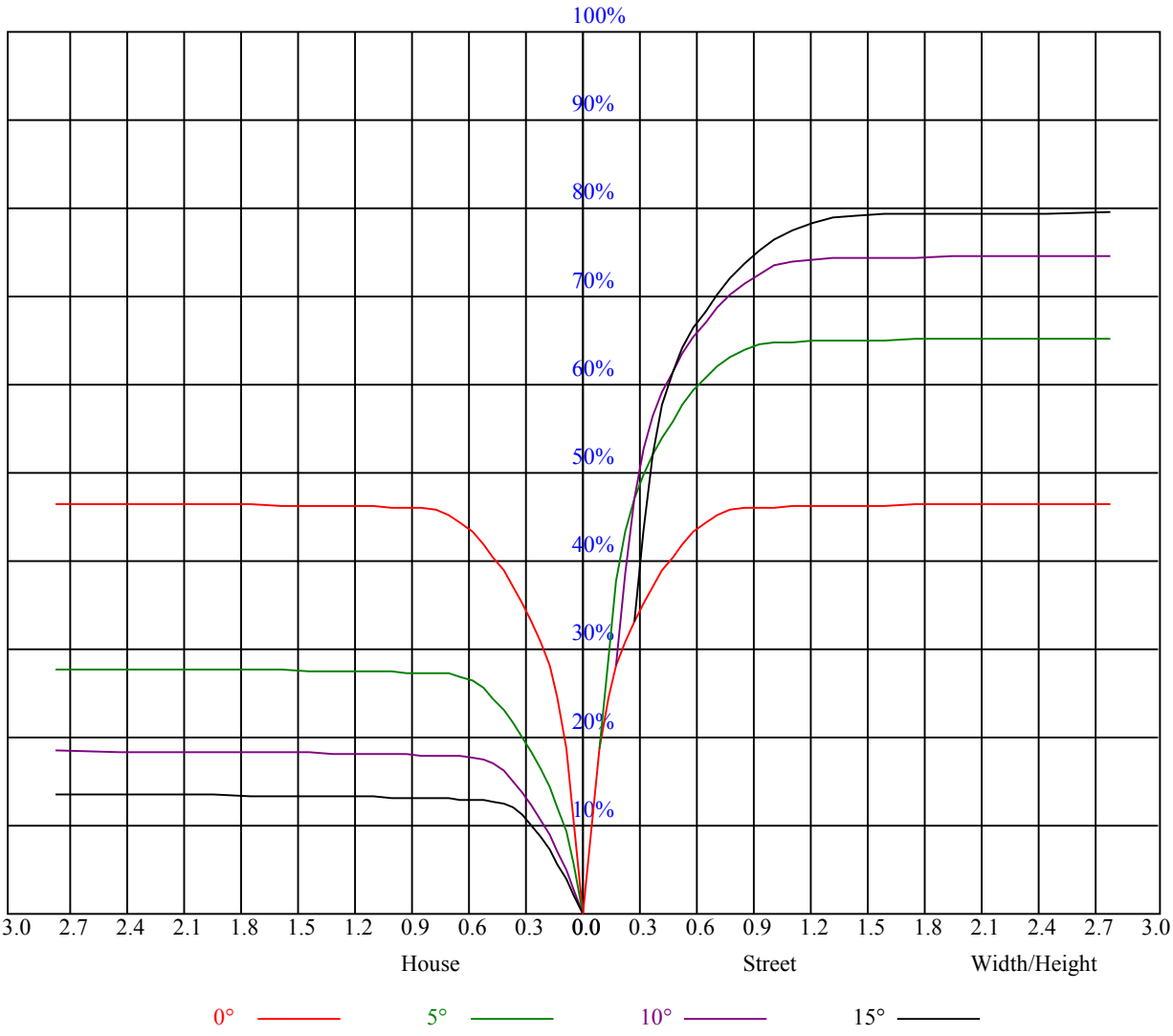


Equipment: GMS1980 Date: 2019/12/23 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	1.12	1.12	1.12	1.09	1.09	1.09	1.04	1.04	1.04	1.00	1.00	1.00	0.96	0.96	0.96	0.94
1	1.05	1.03	1.01	1.03	1.01	1.00	0.99	0.98	0.97	0.96	0.95	0.94	0.93	0.92	0.91	0.90
2	1.00	0.97	0.94	0.98	0.95	0.93	0.95	0.93	0.91	0.92	0.91	0.89	0.90	0.88	0.87	0.86
3	0.95	0.91	0.88	0.94	0.90	0.87	0.91	0.88	0.86	0.89	0.87	0.85	0.87	0.85	0.83	0.82
4	0.91	0.86	0.83	0.90	0.86	0.83	0.88	0.84	0.82	0.86	0.83	0.81	0.84	0.82	0.80	0.79
5	0.87	0.83	0.79	0.86	0.82	0.79	0.84	0.81	0.78	0.83	0.80	0.78	0.82	0.79	0.77	0.76
6	0.83	0.79	0.76	0.83	0.79	0.76	0.81	0.78	0.75	0.80	0.77	0.75	0.79	0.76	0.74	0.73
7	0.80	0.76	0.73	0.80	0.76	0.73	0.79	0.75	0.73	0.78	0.75	0.72	0.77	0.74	0.72	0.71
8	0.78	0.73	0.71	0.77	0.73	0.70	0.76	0.73	0.70	0.75	0.72	0.70	0.75	0.72	0.70	0.69
9	0.75	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.68	0.73	0.70	0.68	0.67
10	0.73	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.71	0.68	0.66	0.65

Coefficient Utilization Curve

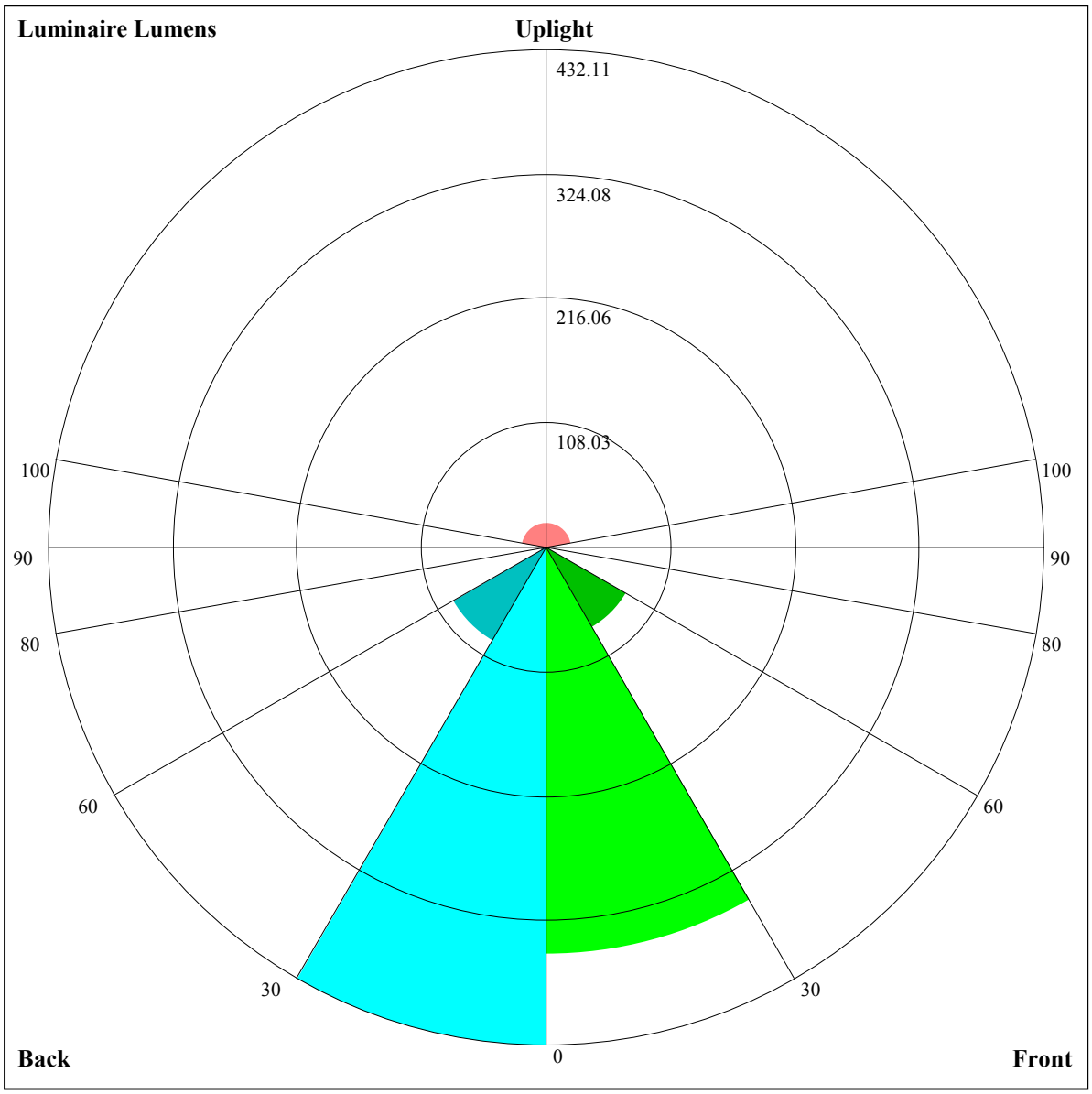


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/12/23
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

LCS Graph



Luminaire Lumens:

FL=354.09,FM=79.69,FH=4.56,FVH=2.34

BL=432.11,BM=94.46,BH=4.6,BVH=2.34

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	10815.75	10157.63	9015.19	7477.88	5987.25	4392.00	3110.06	2275.88	1673.44
45.0	10897.31	10316.81	9313.88	8066.25	6469.31	4878.00	3627.56	2646.56	1857.38
90.0	10691.44	10337.06	9634.50	8292.94	6967.13	5576.63	3942.56	2891.81	2103.19
135.0	10597.50	10860.19	10734.75	10188.56	9328.50	8169.19	6456.38	5030.44	3764.25
180.0	10815.75	11096.44	11042.44	10591.31	9661.50	8480.25	7029.00	5131.69	3800.81
225.0	10897.31	11029.50	10840.50	10128.38	9149.63	7809.75	6112.13	4510.69	3326.06
270.0	10691.44	10693.69	10244.25	9477.00	8197.88	6640.31	5222.81	3822.19	2845.69
315.0	10597.50	9873.00	8867.81	7417.13	5834.81	4473.56	3216.94	2290.50	1692.56
360.0	10815.75	10157.63	9015.19	7477.88	5987.25	4392.00	3110.06	2275.88	1673.44

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	1184.63	945.56	786.38	675.00	600.19	557.44	520.88	496.13	479.81
45.0	1349.44	1025.44	840.38	721.13	622.13	572.06	534.94	502.88	483.75
90.0	1454.63	1098.96	918.84	776.31	667.63	594.39	543.49	511.88	488.59
135.0	2558.25	1850.06	1374.75	1036.69	830.25	714.38	624.38	572.06	529.31
180.0	2754.56	1827.00	1104.30	1074.04	857.31	719.61	636.36	574.59	534.26
225.0	2323.69	1633.50	1098.17	935.61	798.64	683.55	600.81	561.99	526.95
270.0	2016.00	1449.00	1126.69	913.50	741.94	654.75	594.56	544.50	514.69
315.0	1119.88	946.58	786.60	682.93	598.95	555.69	522.73	491.85	473.46
360.0	1184.63	945.56	786.38	675.00	600.19	557.44	520.88	496.13	479.81

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	465.19	454.50	443.81	434.25	426.94	419.63	412.31	405.56	399.38
45.0	468.00	455.63	442.13	432.00	422.44	414.00	406.13	398.25	391.50
90.0	466.59	452.48	440.49	428.74	418.50	410.40	402.92	394.31	387.62
135.0	498.38	478.69	461.25	447.75	437.06	427.50	417.94	410.63	403.31
180.0	501.24	476.66	459.45	443.53	430.31	420.58	412.14	402.81	396.00
225.0	494.44	479.03	464.29	447.19	437.68	427.84	417.88	408.60	401.06
270.0	493.31	474.75	460.13	448.31	437.63	427.50	419.63	411.19	403.88
315.0	458.89	445.61	435.66	425.93	417.26	410.23	402.86	395.78	389.70
360.0	465.19	454.50	443.81	434.25	426.94	419.63	412.31	405.56	399.38

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	390.94	382.50	375.19	367.88	360.00	352.69	330.75	291.94	286.88
45.0	384.75	376.31	368.44	361.69	354.38	347.06	334.13	294.19	284.06
90.0	381.09	373.78	364.61	357.30	349.76	342.28	334.86	312.08	276.64
135.0	396.56	388.13	381.38	374.63	364.50	357.75	350.44	343.69	334.13
180.0	389.36	382.89	374.68	368.04	360.51	352.58	346.67	340.31	332.33
225.0	392.96	385.82	378.06	369.06	362.25	355.05	348.08	341.21	327.77
270.0	396.00	388.69	381.38	372.94	365.06	358.31	352.13	340.88	313.31
315.0	383.57	374.18	367.37	360.96	353.93	345.71	329.23	290.25	240.58
360.0	390.94	382.50	375.19	367.88	360.00	352.69	330.75	291.94	286.88

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	192.94	133.20	79.88	42.98	18.34	13.50	9.84	7.93	7.48
45.0	202.56	160.99	97.59	56.08	28.63	14.51	10.58	8.27	7.09
90.0	229.61	178.03	131.68	82.91	42.24	19.18	13.67	9.34	7.43
135.0	307.13	288.56	213.30	164.36	104.63	62.61	30.32	15.13	11.76
180.0	306.39	269.78	218.14	160.88	110.31	62.72	31.73	15.64	11.59
225.0	285.19	241.48	194.51	135.06	89.66	49.84	21.66	14.34	10.58
270.0	285.75	226.80	164.76	118.01	74.48	35.61	16.37	12.66	9.06
315.0	191.31	135.00	88.65	45.06	18.84	13.33	9.68	7.20	6.69
360.0	192.94	133.20	79.88	42.98	18.34	13.50	9.84	7.93	7.48

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	6.53	6.24	6.08	5.91	5.68	5.57	5.40	5.29	5.18
45.0	6.53	6.36	6.08	5.96	5.79	5.63	5.51	5.40	5.23
90.0	6.86	6.53	6.30	6.13	5.96	5.79	5.63	5.51	5.34
135.0	9.22	7.71	7.14	6.41	6.24	6.02	5.91	5.68	5.57
180.0	8.32	6.98	6.53	6.30	6.13	5.91	5.68	5.57	5.46
225.0	7.99	7.14	6.53	6.24	6.02	5.85	5.68	5.57	5.40
270.0	7.71	6.86	6.36	6.19	5.96	5.79	5.63	5.46	5.29
315.0	6.41	6.19	5.91	5.74	5.63	5.46	5.29	5.23	5.12
360.0	6.53	6.24	6.08	5.91	5.68	5.57	5.40	5.29	5.18

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	5.06	5.01	4.89	4.84	4.78	4.73	4.67	4.61	4.61
45.0	5.18	5.06	5.01	4.95	4.89	4.84	4.78	4.73	4.67
90.0	5.29	5.18	5.12	5.01	4.95	4.89	4.84	4.78	4.73
135.0	5.40	5.29	5.23	5.12	5.06	4.95	4.89	4.84	4.78
180.0	5.34	5.23	5.06	5.01	4.95	4.84	4.78	4.73	4.73
225.0	5.23	5.18	5.06	4.95	4.89	4.78	4.78	4.73	4.61
270.0	5.18	5.06	5.01	4.95	4.84	4.78	4.73	4.67	4.61
315.0	5.01	4.95	4.89	4.78	4.73	4.67	4.61	4.61	4.56
360.0	5.06	5.01	4.89	4.84	4.78	4.73	4.67	4.61	4.61

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	4.56	4.56	4.50	4.44	4.44	4.44	4.44	4.39	4.39
45.0	4.61	4.61	4.61	4.56	4.50	4.50	4.44	4.44	4.39
90.0	4.67	4.67	4.61	4.61	4.56	4.50	4.50	4.44	4.44
135.0	4.73	4.73	4.67	4.61	4.61	4.56	4.56	4.50	4.44
180.0	4.67	4.61	4.56	4.56	4.50	4.50	4.50	4.44	4.44
225.0	4.56	4.56	4.56	4.50	4.50	4.50	4.44	4.39	4.39
270.0	4.61	4.56	4.56	4.56	4.50	4.50	4.44	4.44	4.44
315.0	4.56	4.50	4.44	4.44	4.44	4.39	4.39	4.39	4.39
360.0	4.56	4.56	4.50	4.44	4.44	4.44	4.44	4.39	4.39

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	4.33	4.39	4.33	4.33	4.33	4.33	4.33	4.33	4.33
45.0	4.39	4.39	4.39	4.33	4.33	4.33	4.33	4.33	4.33
90.0	4.44	4.39	4.39	4.39	4.39	4.33	4.33	4.33	4.33
135.0	4.44	4.44	4.44	4.39	4.39	4.39	4.39	4.33	4.33
180.0	4.39	4.39	4.39	4.39	4.39	4.33	4.33	4.33	4.33
225.0	4.39	4.39	4.39	4.39	4.33	4.33	4.33	4.33	4.33
270.0	4.39	4.39	4.39	4.39	4.39	4.39	4.33	4.39	4.33
315.0	4.33	4.33	4.33	4.33	4.33	4.33	4.28	4.28	4.28
360.0	4.33	4.39	4.33	4.33	4.33	4.33	4.33	4.33	4.33

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	4.28	4.28	4.33	4.28	4.28	4.28	4.28	4.28	4.22
45.0	4.33	4.28	4.28	4.28	4.28	4.28	4.28	4.28	4.28
90.0	4.33	4.33	4.33	4.28	4.28	4.28	4.28	4.28	4.22
135.0	4.33	4.28	4.28	4.28	4.28	4.28	4.28	4.28	4.22
180.0	4.33	4.28	4.33	4.28	4.28	4.28	4.28	4.28	4.28
225.0	4.28	4.33	4.33	4.28	4.28	4.28	4.28	4.28	4.28
270.0	4.33	4.39	4.33	4.33	4.33	4.33	4.28	4.28	4.28
315.0	4.22	4.28	4.28	4.28	4.28	4.22	4.28	4.28	4.22
360.0	4.28	4.28	4.33	4.28	4.28	4.28	4.28	4.28	4.22

Intensity data(cd)

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