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Nata

Client:
LumCAT: 3-2042-M
Luminaire: 92.70.131.00
Report No:
Test No: GC20190824010
LampCAT: TRIDONIC SLE 15MM G7
Lamp flux(lm): 2050.0
Number of Lamps: 1
Length(mm): 84
Phm Type: C

Voltage(V): 33.9400
Current(A): 0.4470
Power (W): 15.1700
PF: 0.0000
Ballast type: DC
Width(mm): 84
Height(mm): 0

Photometric Results

Lumens(lm): 1761.19, Efficiency(%): 85.91% , Luminous Efficacy(lm/W): 116.10
Central intensity(cd): 14310.000, Maximum intensity(cd): 14310.000
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=14.4
[C90/270]Total=14.4
Field angle(10%Imax): [C0/180]Total=28.4
[C90/270]Total=28.4
Maximum s/h(1/2): C0_180=0.25 C90_270=0.25
Maximum s/h(1/4): C0_180=0.25 C90_270=0.25
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 85.91%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.569%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	14310.000	0.000	0	.000%	.000%
1.0	14157.422	13.621	13.621	.664%	.773%
2.0	13763.672	40.075	53.696	1.955%	3.049%
3.0	12935.672	63.856	117.552	3.115%	6.675%
4.0	11910.375	83.168	200.72	4.057%	11.397%
5.0	10654.523	97.073	297.793	4.735%	16.909%
6.0	9063.984	103.626	401.419	5.055%	22.793%
7.0	7461.070	102.571	503.99	5.003%	28.616%
8.0	6041.039	96.632	600.622	4.714%	34.103%
9.0	4654.617	86.682	687.304	4.228%	39.025%
10.0	3583.125	74.549	761.853	3.637%	43.258%
11.0	2926.969	65.049	826.902	3.173%	46.951%
12.0	2212.242	56.179	883.081	2.740%	50.141%
13.0	1891.336	48.699	931.78	2.376%	52.906%
14.0	1480.823	43.163	974.943	2.106%	55.357%
15.0	1255.753	37.569	1012.512	1.833%	57.490%
16.0	1100.728	34.529	1047.041	1.684%	59.451%
17.0	994.760	32.632	1079.674	1.592%	61.304%
18.0	912.551	31.447	1111.121	1.534%	63.089%
19.0	853.298	30.722	1141.843	1.499%	64.834%
20.0	804.748	30.347	1172.19	1.480%	66.557%
21.0	767.721	30.195	1202.385	1.473%	68.271%
22.0	740.630	30.311	1232.696	1.479%	69.992%
23.0	717.413	30.594	1263.289	1.492%	71.729%
24.0	697.423	30.933	1294.223	1.509%	73.486%
25.0	681.413	31.352	1325.574	1.529%	75.266%
26.0	666.977	31.829	1357.403	1.553%	77.073%
27.0	653.414	32.304	1389.707	1.576%	78.907%
28.0	639.970	32.746	1422.453	1.597%	80.767%
29.0	628.348	33.183	1455.635	1.619%	82.651%
30.0	616.978	33.624	1489.259	1.640%	84.560%
31.0	598.303	33.820	1523.078	1.650%	86.480%
32.0	563.203	33.276	1556.354	1.623%	88.370%
33.0	519.518	31.897	1588.252	1.556%	90.181%
34.0	462.094	29.706	1617.958	1.449%	91.868%
35.0	387.429	26.383	1644.341	1.287%	93.366%
36.0	316.238	22.405	1666.746	1.093%	94.638%
37.0	245.580	18.323	1685.069	.894%	95.678%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	167.759	13.797	1698.866	.673%	96.461%
39.0	103.887	9.272	1708.138	.452%	96.988%
40.0	61.917	5.783	1713.921	.282%	97.316%
41.0	36.127	3.491	1717.412	.170%	97.515%
42.0	21.480	2.093	1719.505	.102%	97.633%
43.0	16.629	1.412	1720.917	.069%	97.714%
44.0	14.316	1.168	1722.085	.057%	97.780%
45.0	12.516	1.031	1723.116	.050%	97.838%
46.0	11.609	0.943	1724.059	.046%	97.892%
47.0	11.109	0.904	1724.963	.044%	97.943%
48.0	10.800	0.886	1725.848	.043%	97.994%
49.0	10.519	0.875	1726.724	.043%	98.043%
50.0	10.259	0.866	1727.59	.042%	98.092%
51.0	10.048	0.859	1728.449	.042%	98.141%
52.0	9.844	0.854	1729.303	.042%	98.190%
53.0	9.640	0.848	1730.15	.041%	98.238%
54.0	9.464	0.842	1730.992	.041%	98.286%
55.0	9.295	0.837	1731.83	.041%	98.333%
56.0	9.162	0.834	1732.664	.041%	98.381%
57.0	9.028	0.832	1733.495	.041%	98.428%
58.0	8.909	0.829	1734.325	.040%	98.475%
59.0	8.796	0.828	1735.153	.040%	98.522%
60.0	8.705	0.827	1735.979	.040%	98.569%
61.0	8.620	0.827	1736.806	.040%	98.616%
62.0	8.529	0.826	1737.633	.040%	98.663%
63.0	8.487	0.828	1738.46	.040%	98.710%
64.0	8.395	0.828	1739.289	.040%	98.757%
65.0	8.332	0.828	1740.116	.040%	98.804%
66.0	8.262	0.828	1740.944	.040%	98.851%
67.0	8.227	0.829	1741.773	.040%	98.898%
68.0	8.177	0.831	1742.604	.041%	98.945%
69.0	8.128	0.832	1743.436	.041%	98.992%
70.0	8.086	0.833	1744.269	.041%	99.039%
71.0	8.044	0.834	1745.103	.041%	99.087%
72.0	8.023	0.835	1745.938	.041%	99.134%
73.0	8.002	0.838	1746.776	.041%	99.182%
74.0	7.959	0.839	1747.615	.041%	99.229%
75.0	7.938	0.840	1748.455	.041%	99.277%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	7.931	0.842	1749.297	.041%	99.325%
77.0	7.896	0.844	1750.141	.041%	99.373%
78.0	7.889	0.845	1750.986	.041%	99.421%
79.0	7.868	0.847	1751.833	.041%	99.469%
80.0	7.861	0.848	1752.681	.041%	99.517%
81.0	7.840	0.849	1753.53	.041%	99.565%
82.0	7.826	0.850	1754.379	.041%	99.614%
83.0	7.826	0.851	1755.23	.042%	99.662%
84.0	7.819	0.852	1756.083	.042%	99.710%
85.0	7.798	0.852	1756.935	.042%	99.759%
86.0	7.784	0.852	1757.787	.042%	99.807%
87.0	7.763	0.851	1758.637	.042%	99.855%
88.0	7.755	0.850	1759.487	.041%	99.904%
89.0	7.748	0.850	1760.337	.041%	99.952%
90.0	7.734	0.849	1761.186	.041%	100.000%

Zonal flux distribution table

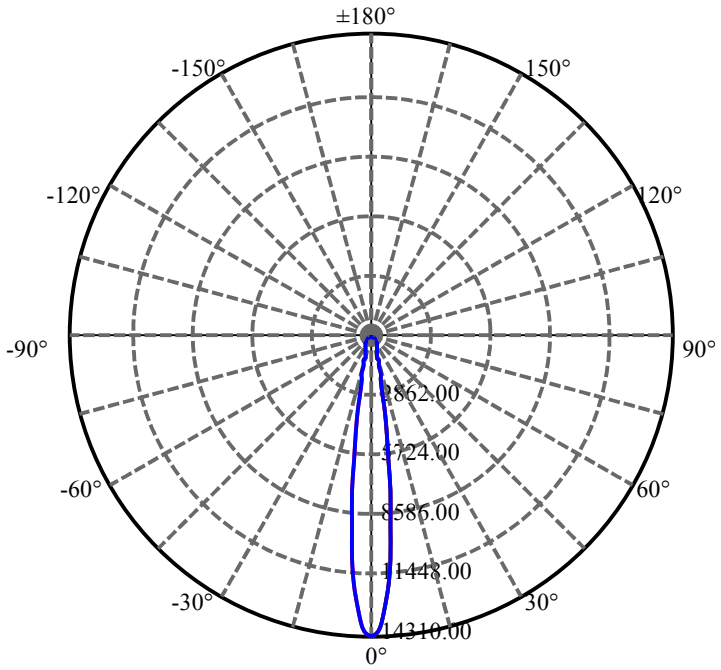
ZONAL LUMEN SUMMARY

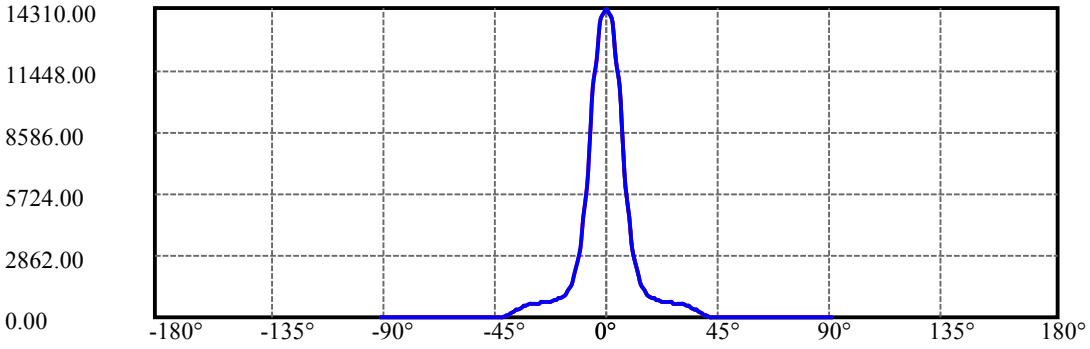
Zone	Lumens	%Lamp	%Fixt
0-30	1489.26	72.65%	84.56%
0-40	1713.92	83.61%	97.32%
0-60	1735.98	84.68%	98.57%
0-90	1760.34	85.87%	99.95%
0-120	1760.34	85.87%	99.95%
0-180	1761.19	85.91%	100.00%
60-90	25.18	1.23%	1.43%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-27.59	1408.95	68.73%	80.00%

ZONAL LUMEN SUMMARY

0-10	761.85
10-20	410.34
20-30	317.07
30-40	224.66
40-50	13.67
50-60	8.39
60-70	8.29
70-80	8.41
80-90	7.66
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):

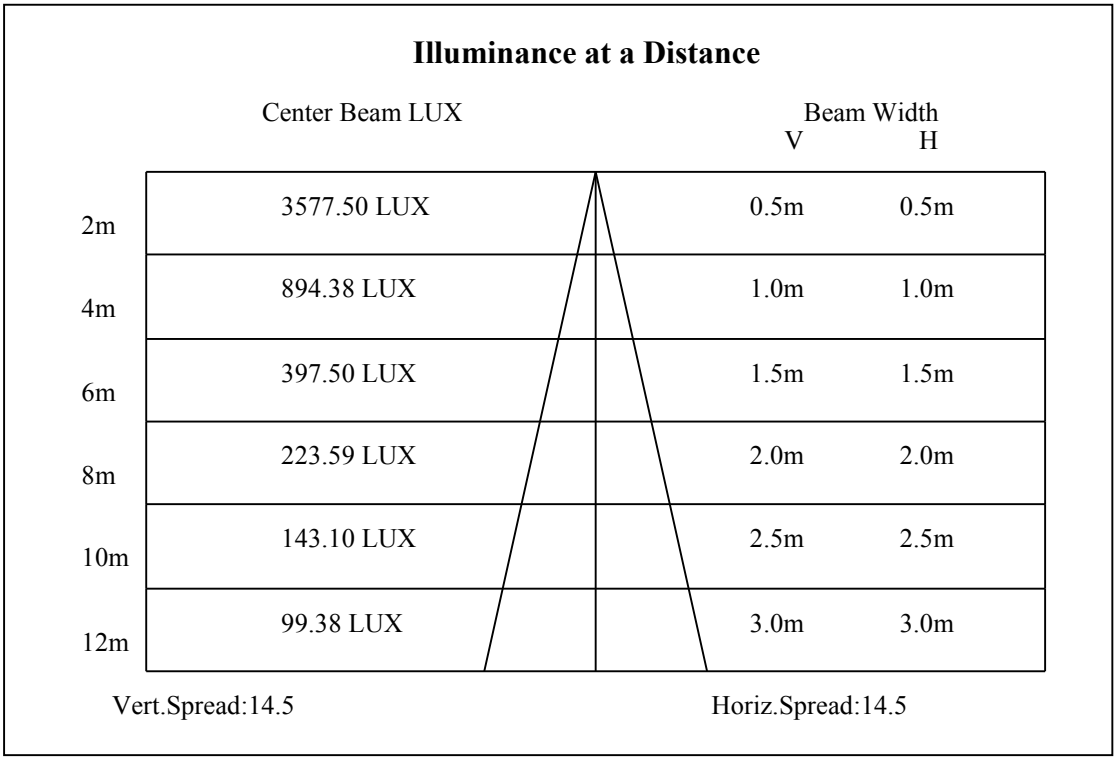
C0/C180:

C90/C270:

Field angle(10%Imax):C0/180Left:14.2 Right:14.2
:C90/270Left:14.2 Right:14.2

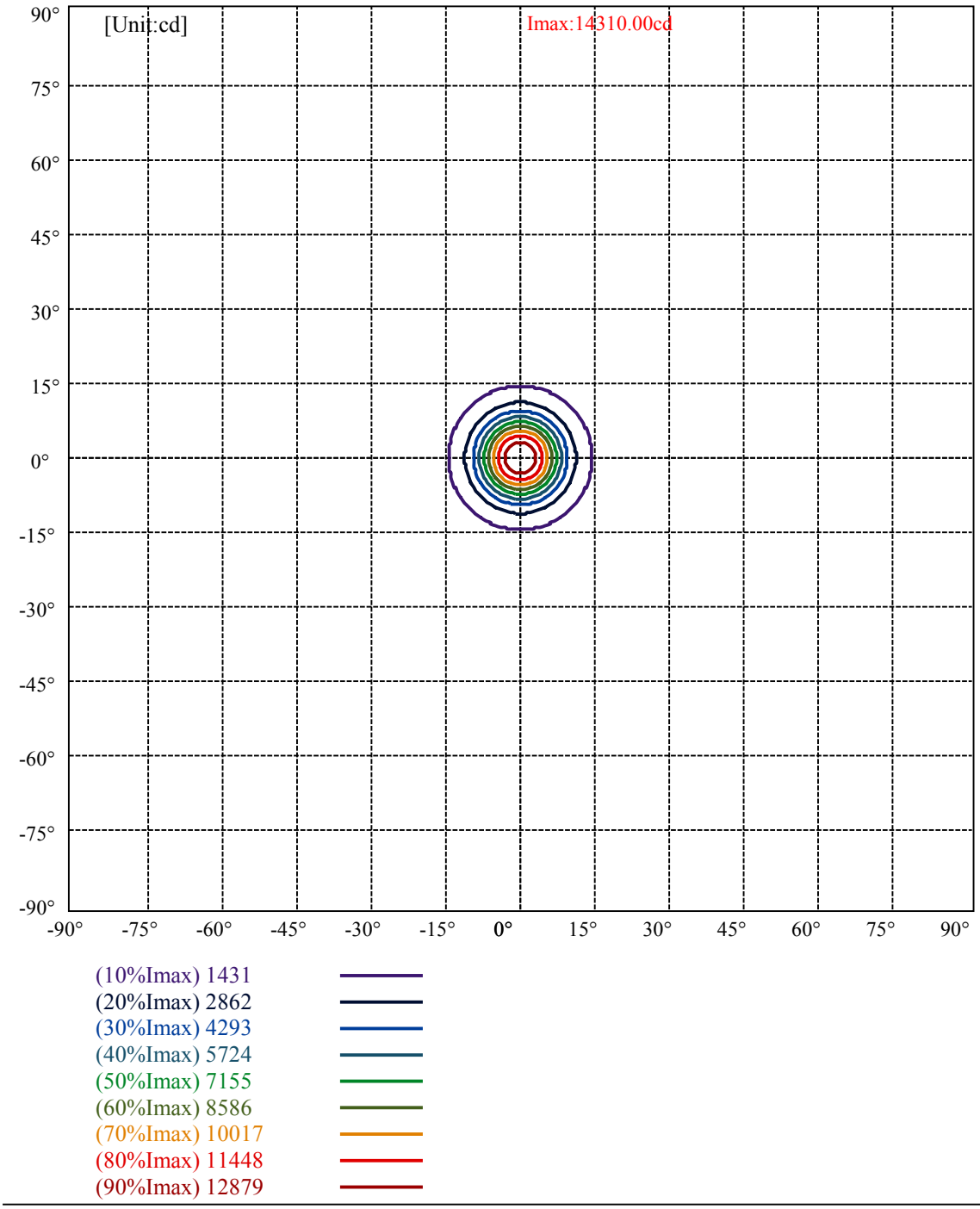
Beam Angle(50%Imax):C0/180Left:7.2 Right:7.2
:C90/270Left:7.2 Right:7.2

Lux distance Curve



Equipment: GMS1980 Date: 2019/8/24 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

ISO-Intensity(V-H)

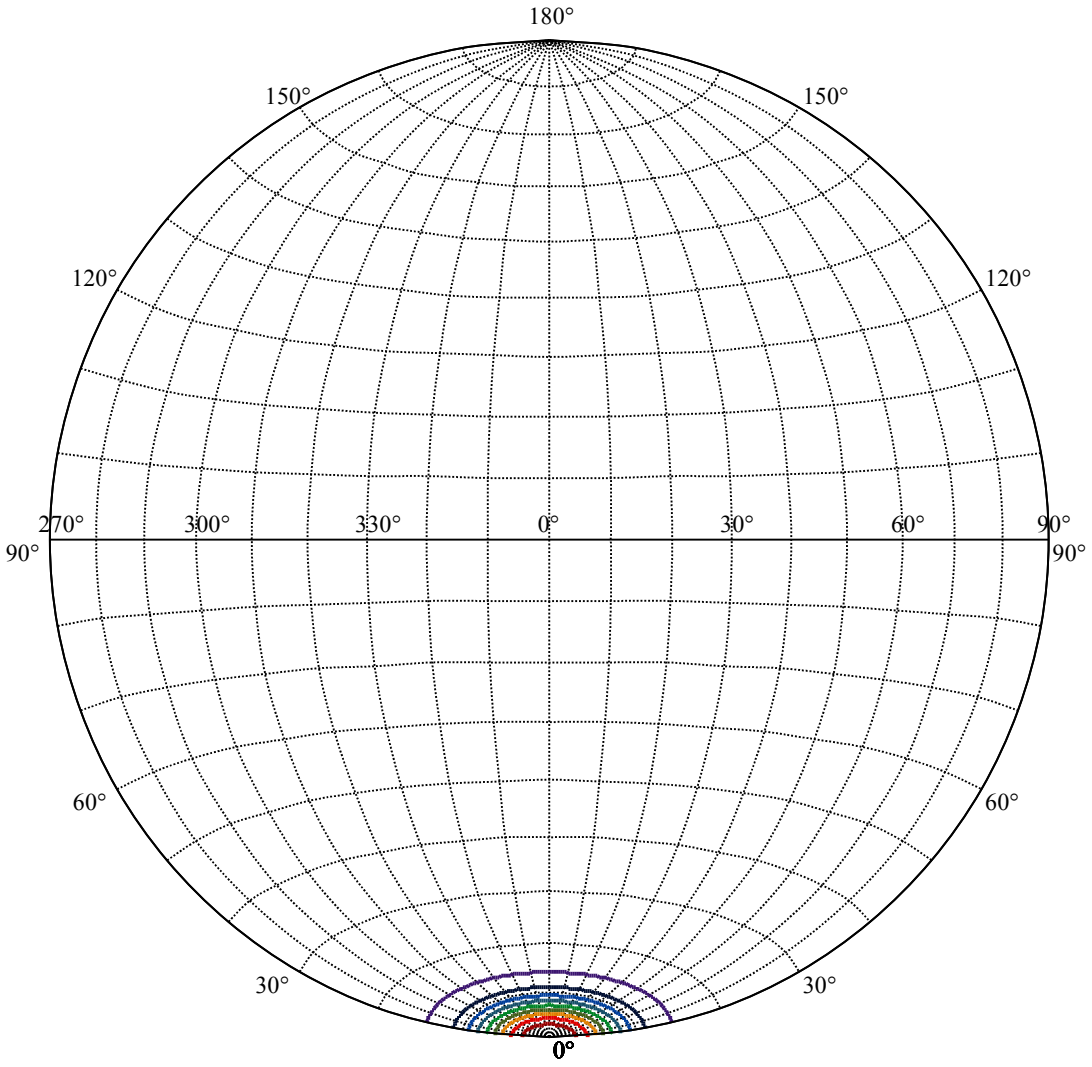


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/8/24
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



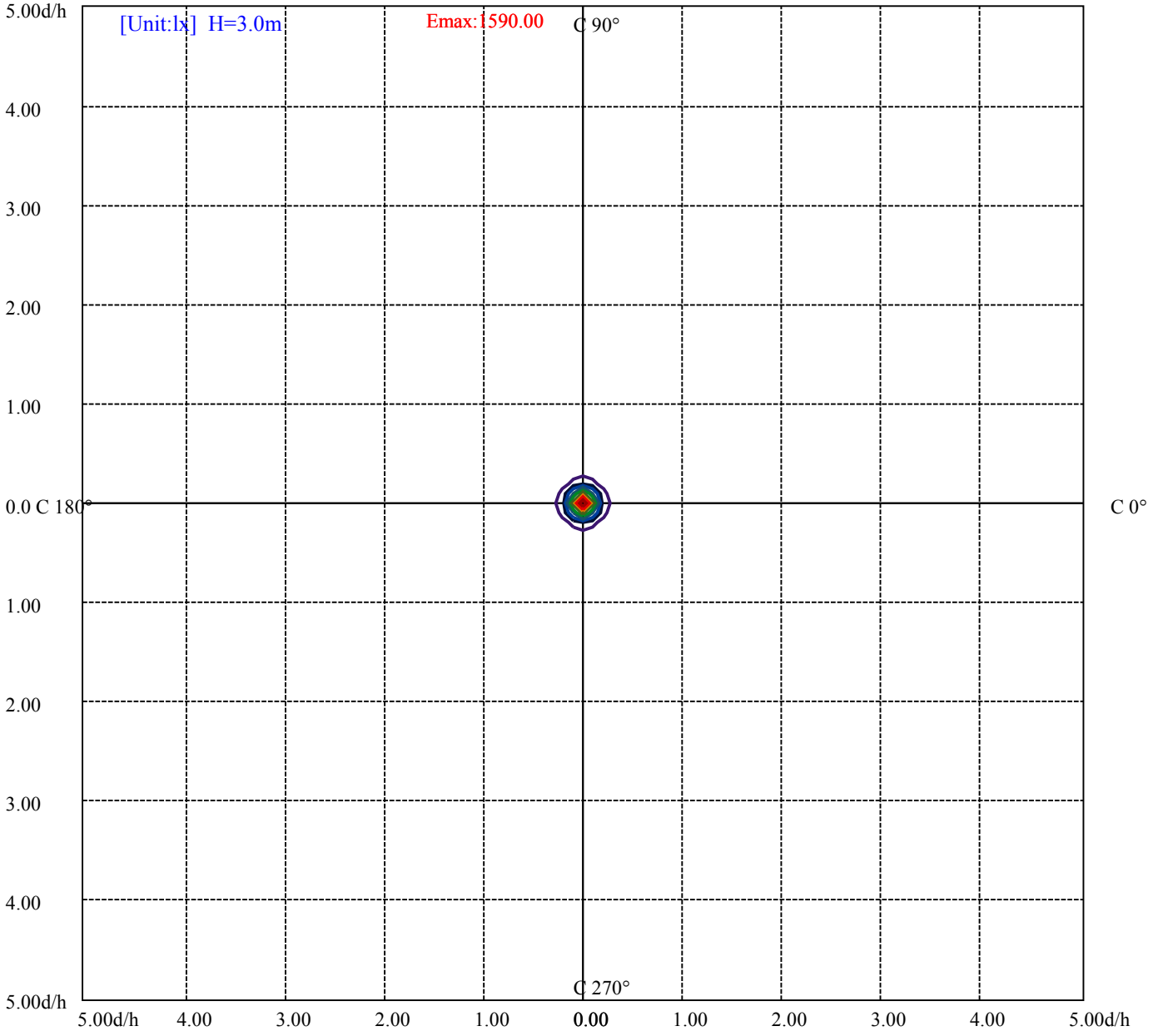
House [Unit:cd] Road

Imax:14310.00

(10%Imax) 1431
(20%Imax) 2862
(30%Imax) 4293
(40%Imax) 5724
(50%Imax) 7155
(60%Imax) 8586
(70%Imax) 10017
(80%Imax) 11448
(90%Imax) 12879

Equipment: GMS1980 Date: 2019/8/24 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

ISO illuminance diagram

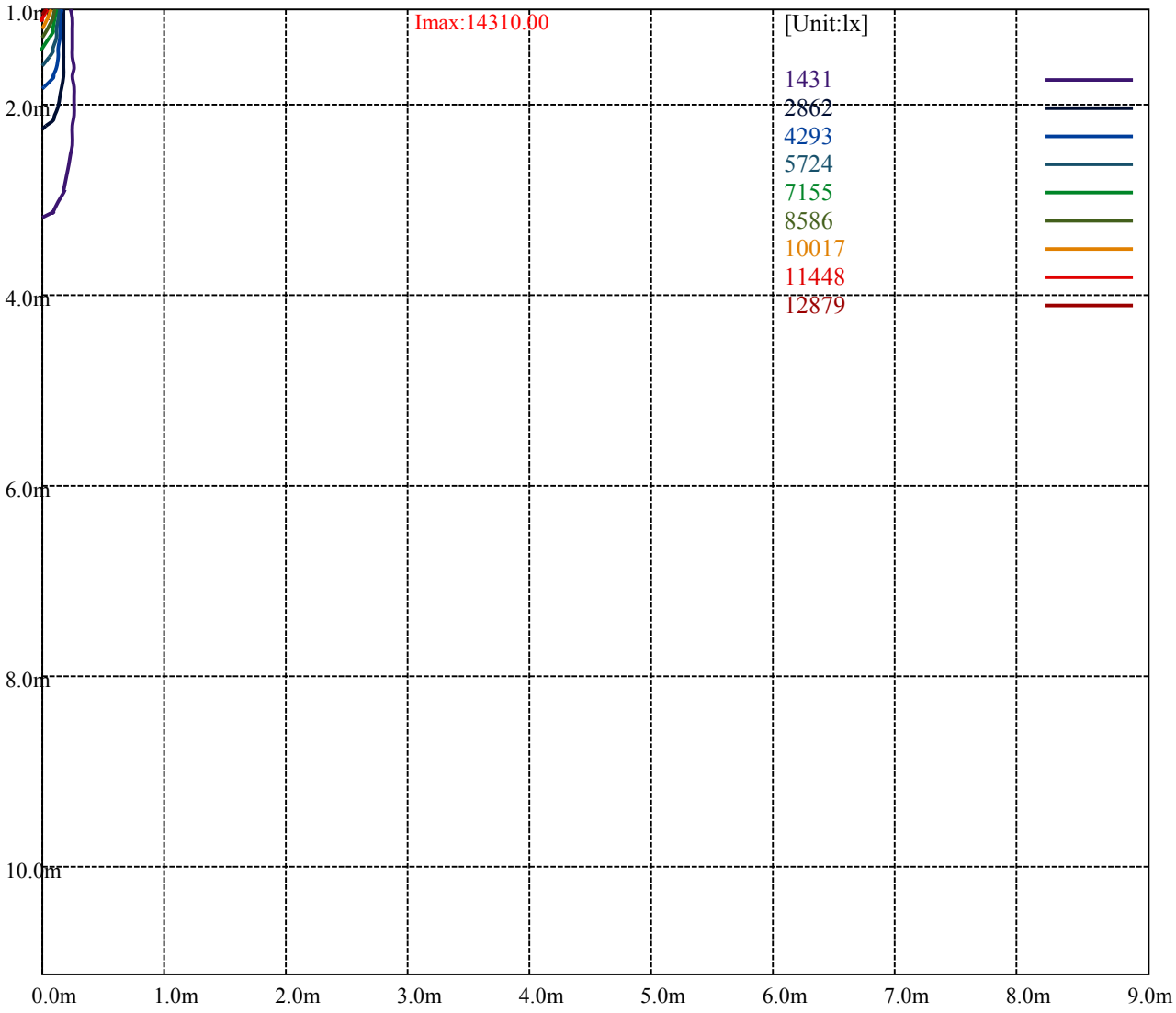


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/8/24
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/8/24
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Luminance Limitting Curve(no luminous side)

Luminance Table

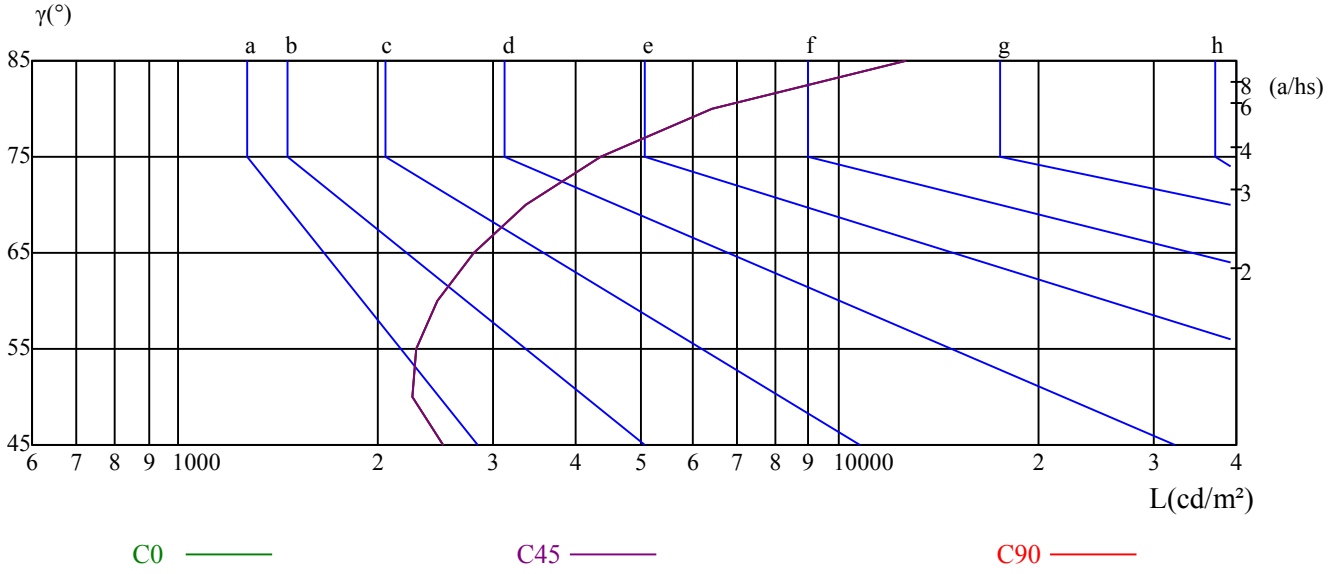
γ	45	50	55	60	65	70	75	80	85
C0	2508	2262	2297	2467	2794	3351	4347	6416	12680
C45	2508	2262	2297	2467	2794	3351	4347	6416	12680
C90	2508	2262	2297	2467	2794	3351	4347	6416	12680

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
2794	2794	2794	4347	4347	4347	12680	12680	12680

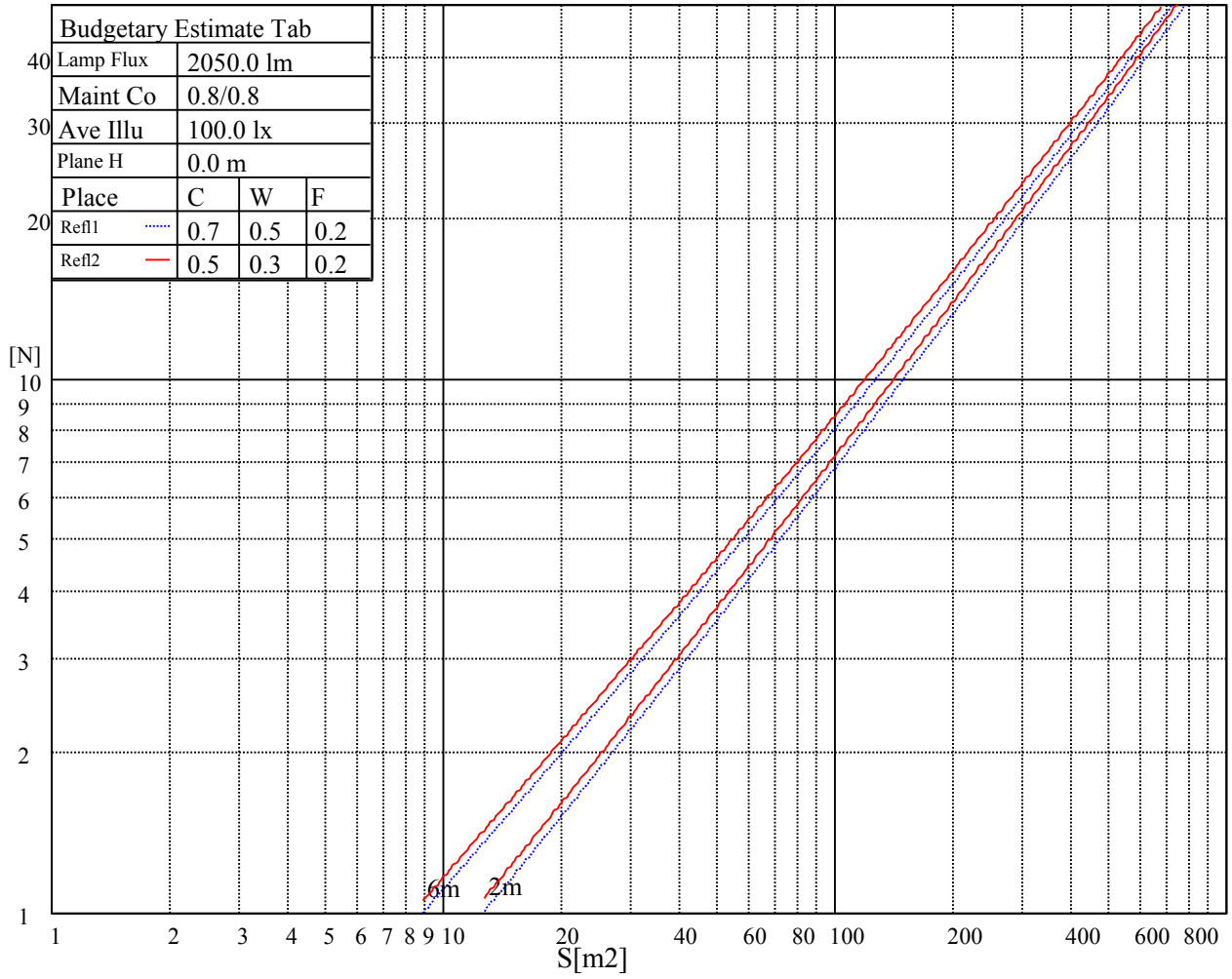
Glare Table

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

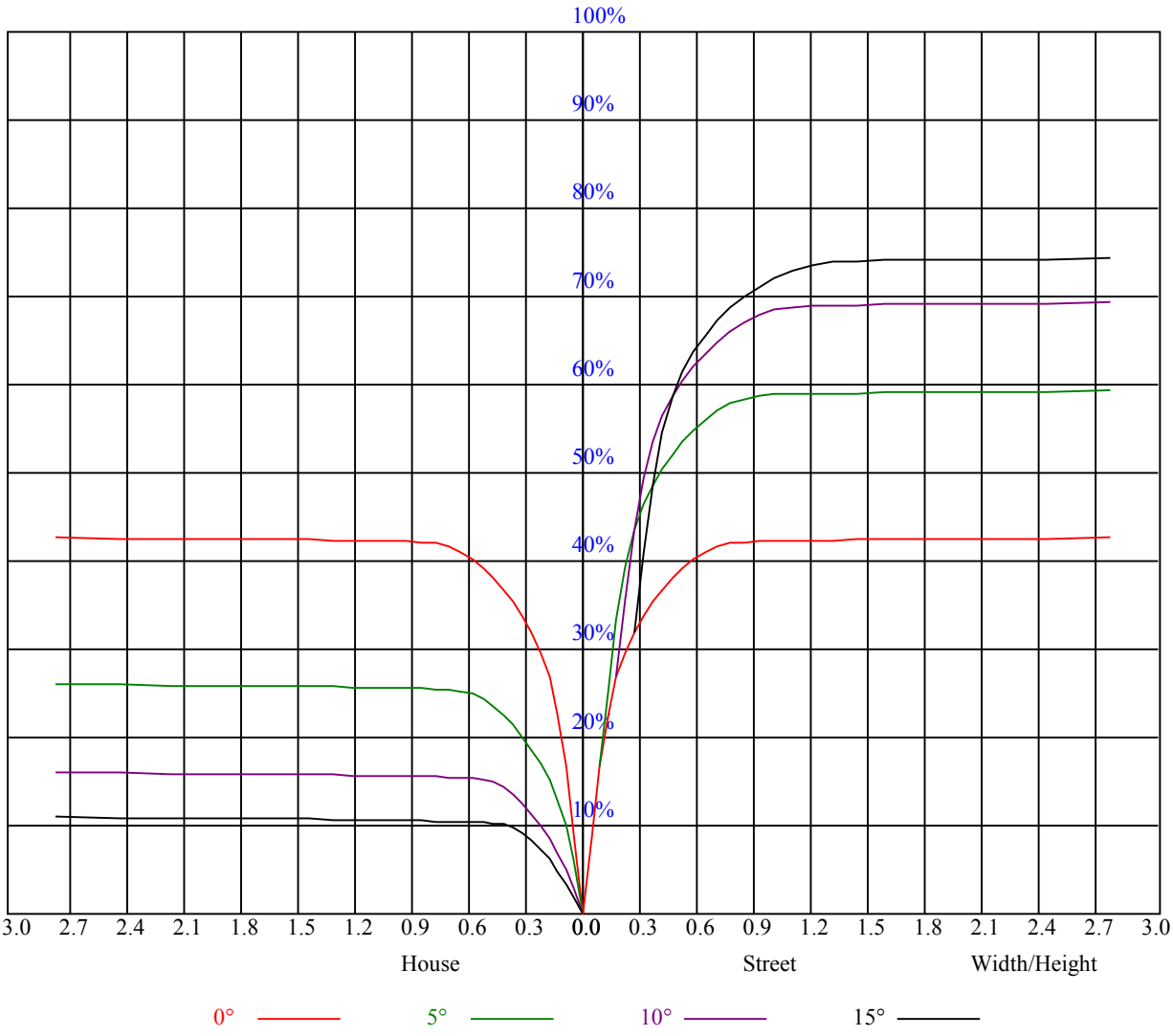


Equipment: GMS1980 Date: 2019/8/24 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	1.02	1.02	1.02	1.00	1.00	1.00	0.95	0.95	0.95	0.91	0.91	0.91	0.88	0.88	0.88	0.86
1	0.96	0.95	0.93	0.95	0.93	0.92	0.91	0.90	0.89	0.88	0.87	0.86	0.85	0.84	0.84	0.82
2	0.92	0.89	0.86	0.90	0.88	0.85	0.87	0.85	0.84	0.85	0.83	0.82	0.83	0.81	0.80	0.79
3	0.87	0.84	0.81	0.86	0.83	0.81	0.84	0.81	0.79	0.82	0.80	0.78	0.80	0.78	0.77	0.76
4	0.84	0.80	0.77	0.83	0.79	0.77	0.81	0.78	0.76	0.79	0.77	0.75	0.78	0.76	0.74	0.73
5	0.80	0.76	0.74	0.80	0.76	0.73	0.78	0.75	0.73	0.77	0.74	0.72	0.76	0.73	0.72	0.71
6	0.77	0.73	0.71	0.77	0.73	0.71	0.76	0.72	0.70	0.74	0.72	0.70	0.73	0.71	0.69	0.68
7	0.75	0.71	0.68	0.74	0.71	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.71	0.69	0.67	0.66
8	0.72	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.70	0.67	0.65	0.64
9	0.70	0.66	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.68	0.66	0.63	0.68	0.65	0.63	0.62
10	0.68	0.65	0.62	0.68	0.64	0.62	0.67	0.64	0.62	0.67	0.64	0.62	0.66	0.63	0.62	0.61

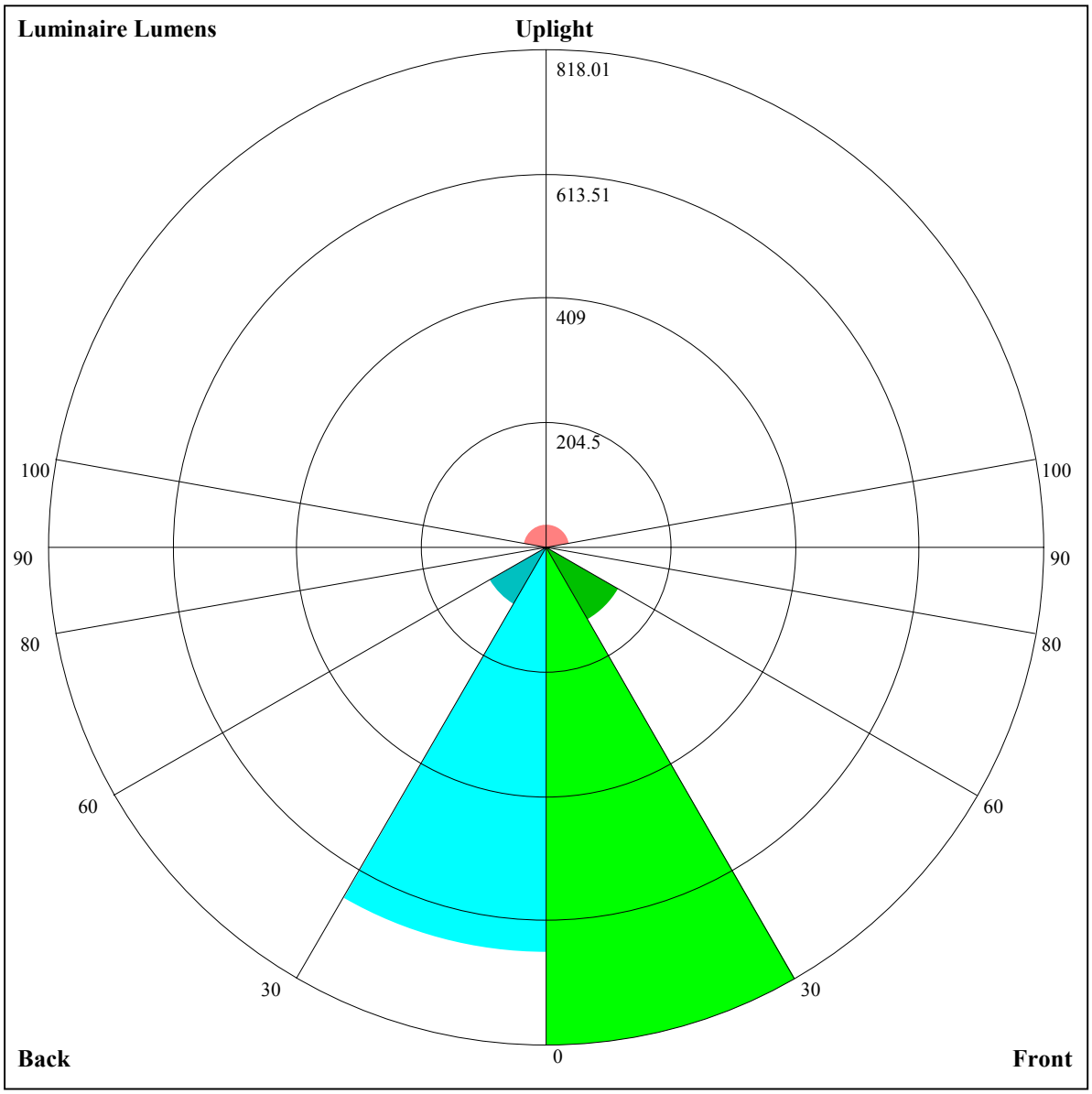
Coefficient Utilization Curve



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2019/8/24
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50



Luminaire Lumens:
FL=818.01,FM=138.26,FH=8.39,FVH=4.26
BL=665.36,BM=108.25,BH=8.3,BVH=4.25
UL=8.44,UH=40.16

BUG Rating:B2-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	14377.50	14585.63	14574.38	14343.75	13781.25	12976.88	11480.63	10029.38	8488.13
45.0	14101.88	14439.38	14535.00	14360.63	13989.38	13201.88	11970.00	10507.50	8926.88
90.0	14332.50	14270.63	14045.63	13449.38	12048.75	11107.69	9596.81	7572.94	6004.69
135.0	14428.13	14231.25	13725.00	12841.88	11683.13	10271.25	8336.25	6727.50	5259.38
180.0	14377.50	13826.25	13033.13	11218.50	10099.13	8530.88	6756.75	5131.13	3967.31
225.0	14101.88	13415.63	12481.88	11086.88	9589.50	7819.88	6336.56	4857.19	3702.38
270.0	14332.50	14130.00	13651.88	12706.88	11593.13	10226.25	8358.75	6879.38	5501.25
315.0	14428.13	14360.63	14062.50	13477.50	12498.75	11101.50	9676.13	7983.56	6478.31
360.0	14377.50	14585.63	14574.38	14343.75	13781.25	12976.88	11480.63	10029.38	8488.13

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	6570.00	5158.13	4005.00	3054.38	2885.63	1953.00	1635.75	1375.88	1194.19
45.0	6975.00	5490.00	4336.88	3133.13	2863.13	1969.31	1598.06	1344.38	1180.69
90.0	4625.44	3430.69	2601.56	2093.06	1725.19	1400.63	1109.87	1078.65	969.58
135.0	3813.75	2981.25	2885.63	1842.75	1500.75	1283.06	1102.50	995.06	907.88
180.0	3111.75	2331.00	1887.75	1569.38	1285.88	1108.24	1008.11	920.19	843.69
225.0	2944.13	2302.88	1839.94	1541.25	1317.38	1119.60	1008.17	922.50	845.89
270.0	4083.75	3228.75	2896.88	2074.50	1679.06	1426.50	1218.94	1071.00	972.56
315.0	5113.13	3742.31	2962.13	2389.50	1873.69	1586.25	1364.63	1098.17	1043.61
360.0	6570.00	5158.13	4005.00	3054.38	2885.63	1953.00	1635.75	1375.88	1194.19

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1075.50	977.63	904.50	853.31	807.19	772.31	742.50	717.75	699.75
45.0	1046.25	955.13	880.88	826.31	790.31	756.56	726.75	705.94	687.94
90.0	892.01	839.42	793.35	756.23	729.79	706.11	687.71	670.05	656.04
135.0	842.63	797.63	764.44	736.31	714.94	696.94	675.56	662.06	649.13
180.0	796.56	760.39	732.09	707.74	689.18	675.73	661.50	651.66	637.48
225.0	798.92	765.73	736.82	713.53	698.79	683.66	671.74	658.74	646.54
270.0	892.69	839.81	793.69	758.25	735.19	714.94	698.63	685.13	673.31
315.0	955.86	890.66	832.22	790.09	759.66	733.05	714.99	699.98	685.63
360.0	1075.50	977.63	904.50	853.31	807.19	772.31	742.50	717.75	699.75

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	685.69	665.44	651.94	643.50	630.00	619.31	609.75	572.63	509.63
45.0	669.94	657.56	644.06	627.75	617.06	606.38	595.13	559.69	503.44
90.0	642.32	627.69	617.34	606.71	596.81	570.04	522.06	462.15	384.02
135.0	635.63	622.69	614.25	604.13	587.81	546.19	479.25	414.56	334.69
180.0	627.47	616.28	606.38	593.27	555.36	488.36	424.13	356.51	267.36
225.0	638.44	628.20	614.76	602.10	562.11	484.14	426.43	354.83	273.88
270.0	658.13	647.44	636.75	627.19	616.50	586.13	533.25	465.19	396.56
315.0	669.71	654.47	641.31	631.18	620.78	605.08	566.16	511.20	429.86
360.0	685.69	665.44	651.94	643.50	630.00	619.31	609.75	572.63	509.63

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	451.13	360.00	293.06	201.04	129.15	74.42	31.39	21.88	18.51
45.0	431.44	361.13	289.69	199.86	137.25	82.24	32.46	22.05	18.62
90.0	301.73	231.36	156.15	92.19	48.54	22.84	19.58	15.75	12.99
135.0	289.13	180.17	117.68	65.19	26.04	19.91	17.16	14.01	12.49
180.0	196.48	132.86	69.81	28.86	21.37	18.17	15.08	12.99	11.31
225.0	192.15	125.94	64.46	27.34	22.44	18.39	15.41	12.38	11.53
270.0	312.75	293.06	151.43	90.79	39.38	23.68	19.24	15.92	14.12
315.0	355.11	280.13	199.80	125.83	71.16	29.36	21.54	18.06	14.96
360.0	451.13	360.00	293.06	201.04	129.15	74.42	31.39	21.88	18.51

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	15.24	12.88	11.93	11.59	11.19	10.91	10.69	10.46	10.18
45.0	14.68	13.05	11.93	11.36	10.97	10.69	10.46	10.24	10.07
90.0	11.76	11.19	10.86	10.58	10.35	10.13	9.90	9.73	9.51
135.0	11.42	11.03	10.69	10.52	10.24	10.01	9.84	9.62	9.45
180.0	10.97	10.63	10.41	10.18	10.01	9.73	9.62	9.39	9.28
225.0	11.19	10.86	10.58	10.29	10.13	9.90	9.62	9.51	9.28
270.0	11.98	11.48	11.14	10.86	10.52	10.24	10.07	9.79	9.56
315.0	12.88	11.76	11.36	11.03	10.74	10.46	10.18	10.01	9.79
360.0	15.24	12.88	11.93	11.59	11.19	10.91	10.69	10.46	10.18

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	10.01	9.79	9.68	9.51	9.28	9.17	9.06	8.94	8.83
45.0	9.84	9.62	9.45	9.28	9.17	9.00	8.89	8.83	8.72
90.0	9.39	9.23	9.06	8.94	8.83	8.72	8.66	8.55	8.44
135.0	9.28	9.11	9.00	8.89	8.78	8.66	8.55	8.49	8.44
180.0	9.11	9.00	8.89	8.78	8.72	8.61	8.49	8.44	8.38
225.0	9.11	9.00	8.89	8.78	8.66	8.61	8.55	8.49	8.38
270.0	9.39	9.23	9.11	8.94	8.83	8.78	8.66	8.55	8.49
315.0	9.56	9.39	9.23	9.11	9.00	8.83	8.78	8.66	8.55
360.0	10.01	9.79	9.68	9.51	9.28	9.17	9.06	8.94	8.83

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	8.78	8.66	8.49	8.38	8.33	8.27	8.21	8.16	8.10
45.0	8.66	8.55	8.49	8.38	8.38	8.33	8.27	8.21	8.16
90.0	8.44	8.38	8.27	8.21	8.21	8.16	8.10	8.10	7.99
135.0	8.38	8.33	8.27	8.21	8.16	8.10	8.10	8.04	7.99
180.0	8.33	8.27	8.21	8.16	8.16	8.10	8.04	8.04	7.99
225.0	8.38	8.27	8.27	8.21	8.16	8.10	8.04	8.04	8.04
270.0	8.44	8.33	8.33	8.27	8.21	8.16	8.16	8.04	8.04
315.0	8.49	8.38	8.33	8.27	8.21	8.21	8.10	8.04	8.04
360.0	8.78	8.66	8.49	8.38	8.33	8.27	8.21	8.16	8.10

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	8.10	8.04	7.99	7.99	7.93	7.93	7.93	7.88	7.88
45.0	8.10	8.10	8.04	8.04	8.04	7.99	7.99	7.93	7.88
90.0	7.99	7.99	7.93	7.93	7.93	7.88	7.88	7.88	7.88
135.0	7.99	7.99	7.93	7.88	7.88	7.88	7.88	7.82	7.82
180.0	7.99	7.93	7.93	7.88	7.88	7.88	7.82	7.82	7.82
225.0	7.99	7.99	7.93	7.93	7.93	7.88	7.88	7.88	7.88
270.0	7.99	7.99	7.99	7.93	7.93	7.88	7.88	7.88	7.88
315.0	8.04	7.99	7.93	7.93	7.93	7.88	7.88	7.88	7.88
360.0	8.10	8.04	7.99	7.99	7.93	7.93	7.93	7.88	7.88

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	7.88	7.82	7.82	7.82	7.82	7.76	7.76	7.76	7.76
45.0	7.88	7.88	7.88	7.88	7.82	7.82	7.82	7.82	7.82
90.0	7.82	7.82	7.82	7.82	7.82	7.76	7.76	7.76	7.71
135.0	7.82	7.82	7.82	7.82	7.76	7.76	7.71	7.71	7.71
180.0	7.82	7.82	7.82	7.76	7.76	7.76	7.76	7.76	7.76
225.0	7.82	7.82	7.82	7.82	7.82	7.82	7.82	7.76	7.76
270.0	7.88	7.82	7.82	7.82	7.82	7.82	7.76	7.76	7.76
315.0	7.82	7.82	7.82	7.82	7.76	7.76	7.71	7.71	7.71
360.0	7.88	7.82	7.82	7.82	7.82	7.76	7.76	7.76	7.76

Intensity data(cd)

C/γ(°)	90.0
0.0	7.76
45.0	7.76
90.0	7.71
135.0	7.71
180.0	7.71
225.0	7.82
270.0	7.71
315.0	7.71
360.0	7.76