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

Nata

Client:
LumCAT: 2-2183-M
Luminaire: BJB 47.360.5080

Report No: nt0100	Voltage(V): 220.5000
Test No: GC2020031334	Current(A): 0.1080
LampCAT: NICHIA NFCWJ120B-V3	Power (W): 22.8900
Lamp flux(lm): 2445.0	PF: 0.9570
Number of Lamps: 1	Ballast type: AC
Length(mm): 0	Width(mm): 0
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1892.40, Efficiency(%): 77.40% , Luminous Efficacy(lm/W): 82.67
Central intensity(cd): 14635.060, Maximum intensity(cd): 14635.060
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=17.2
[C90/270]Total=17.2
Field angle(10%Imax): [C0/180]Total=38.0
[C90/270]Total=38.0
Maximum s/h(1/2): C0_180=0.30 C90_270=0.30
Maximum s/h(1/4): C0_180=0.32 C90_270=0.32
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 77.40%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 99.021%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	14635.058	0.000	0	.000%	.000%
1.0	14512.089	13.946	13.946	.570%	.737%
2.0	14138.542	41.122	55.068	1.682%	2.910%
3.0	13519.057	66.148	121.216	2.705%	6.405%
4.0	12434.542	86.875	208.091	3.553%	10.996%
5.0	11361.801	102.371	310.462	4.187%	16.406%
6.0	10153.098	113.066	423.528	4.624%	22.381%
7.0	8893.178	118.220	541.748	4.835%	28.628%
8.0	7975.494	120.726	662.474	4.938%	35.007%
9.0	6957.288	121.022	783.496	4.950%	41.402%
10.0	6030.787	117.537	901.034	4.807%	47.613%
11.0	5239.726	112.616	1013.649	4.606%	53.564%
12.0	4412.761	105.515	1119.165	4.316%	59.140%
13.0	3802.963	97.500	1216.665	3.988%	64.292%
14.0	3317.526	91.142	1307.806	3.728%	69.108%
15.0	2809.931	84.120	1391.927	3.441%	73.554%
16.0	2451.871	77.100	1469.027	3.153%	77.628%
17.0	2147.176	71.620	1540.646	2.929%	81.412%
18.0	1771.506	64.611	1605.257	2.643%	84.827%
19.0	1453.602	56.110	1661.367	2.295%	87.792%
20.0	1144.231	47.548	1708.915	1.945%	90.304%
21.0	924.146	39.717	1748.632	1.624%	92.403%
22.0	718.214	33.004	1781.636	1.350%	94.147%
23.0	515.982	25.897	1807.532	1.059%	95.516%
24.0	356.436	19.074	1826.606	.780%	96.523%
25.0	239.952	13.561	1840.167	.555%	97.240%
26.0	133.369	8.812	1848.979	.360%	97.706%
27.0	85.388	5.352	1854.331	.219%	97.989%
28.0	45.957	3.325	1857.657	.136%	98.164%
29.0	13.266	1.549	1859.206	.063%	98.246%
30.0	9.861	0.624	1859.83	.026%	98.279%
31.0	9.188	0.530	1860.361	.022%	98.307%
32.0	8.672	0.512	1860.872	.021%	98.334%
33.0	8.260	0.499	1861.371	.020%	98.361%
34.0	7.877	0.488	1861.859	.020%	98.386%
35.0	7.541	0.479	1862.338	.020%	98.412%
36.0	7.245	0.471	1862.809	.019%	98.437%
37.0	6.990	0.464	1863.273	.019%	98.461%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	6.752	0.459	1863.732	.019%	98.485%
39.0	6.554	0.454	1864.186	.019%	98.509%
40.0	6.392	0.452	1864.638	.018%	98.533%
41.0	6.201	0.448	1865.086	.018%	98.557%
42.0	6.056	0.445	1865.531	.018%	98.580%
43.0	5.945	0.445	1865.976	.018%	98.604%
44.0	5.847	0.445	1866.421	.018%	98.627%
45.0	5.731	0.445	1866.866	.018%	98.651%
46.0	5.655	0.445	1867.311	.018%	98.674%
47.0	5.592	0.447	1867.758	.018%	98.698%
48.0	5.539	0.450	1868.208	.018%	98.722%
49.0	5.493	0.453	1868.661	.019%	98.746%
50.0	5.429	0.455	1869.117	.019%	98.770%
51.0	5.389	0.458	1869.574	.019%	98.794%
52.0	5.342	0.460	1870.035	.019%	98.818%
53.0	5.302	0.463	1870.498	.019%	98.843%
54.0	5.249	0.465	1870.963	.019%	98.867%
55.0	5.220	0.467	1871.43	.019%	98.892%
56.0	5.238	0.473	1871.903	.019%	98.917%
57.0	5.249	0.479	1872.382	.020%	98.942%
58.0	5.249	0.485	1872.868	.020%	98.968%
59.0	5.273	0.492	1873.36	.020%	98.994%
60.0	5.336	0.501	1873.861	.020%	99.021%
61.0	5.435	0.514	1874.375	.021%	99.048%
62.0	5.516	0.528	1874.903	.022%	99.076%
63.0	5.725	0.547	1875.449	.022%	99.104%
64.0	6.003	0.576	1876.025	.024%	99.135%
65.0	6.247	0.606	1876.631	.025%	99.167%
66.0	6.636	0.643	1877.274	.026%	99.201%
67.0	7.303	0.701	1877.975	.029%	99.238%
68.0	7.813	0.766	1878.741	.031%	99.278%
69.0	8.550	0.835	1879.575	.034%	99.323%
70.0	9.281	0.916	1880.491	.037%	99.371%
71.0	9.890	0.991	1881.482	.041%	99.423%
72.0	10.365	1.053	1882.535	.043%	99.479%
73.0	10.667	1.100	1883.635	.045%	99.537%
74.0	10.679	1.122	1884.757	.046%	99.596%
75.0	10.220	1.104	1885.861	.045%	99.655%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	9.205	1.031	1886.893	.042%	99.709%
77.0	7.854	0.910	1887.802	.037%	99.757%
78.0	6.508	0.769	1888.571	.031%	99.798%
79.0	5.104	0.624	1889.195	.026%	99.831%
80.0	3.991	0.490	1889.685	.020%	99.857%
81.0	3.092	0.383	1890.068	.016%	99.877%
82.0	2.662	0.312	1890.38	.013%	99.893%
83.0	2.396	0.275	1890.655	.011%	99.908%
84.0	2.210	0.251	1890.906	.010%	99.921%
85.0	2.135	0.237	1891.143	.010%	99.934%
86.0	2.106	0.232	1891.375	.009%	99.946%
87.0	2.135	0.232	1891.607	.009%	99.958%
88.0	2.309	0.243	1891.85	.010%	99.971%
89.0	2.512	0.264	1892.115	.011%	99.985%
90.0	2.628	0.282	1892.396	.012%	100.000%

Zonal flux distribution table

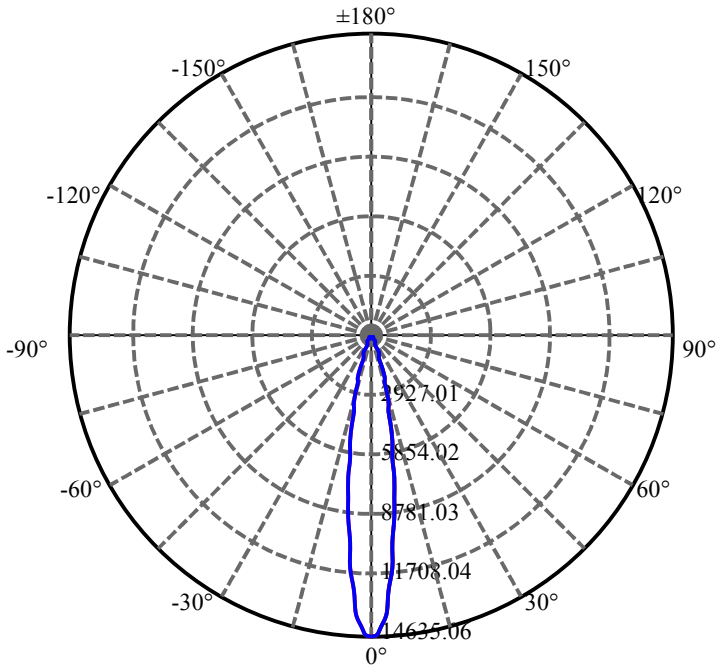
ZONAL LUMEN SUMMARY

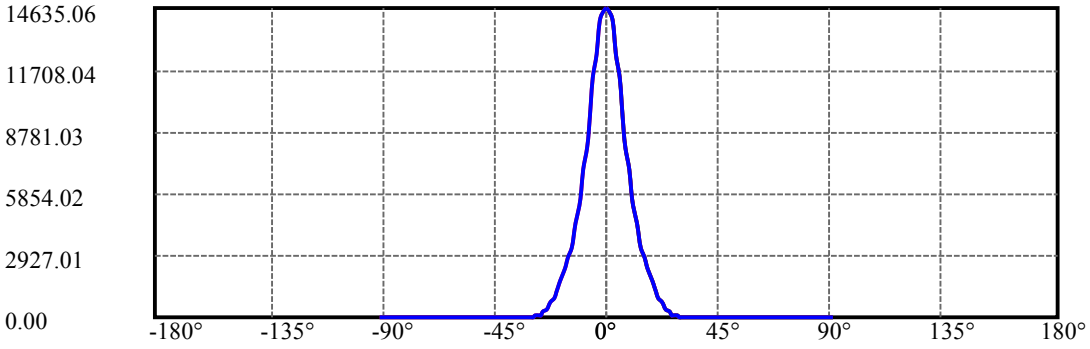
Zone	Lumens	%Lamp	%Fixt
0-30	1859.83	76.07%	98.28%
0-40	1864.64	76.26%	98.53%
0-60	1873.86	76.64%	99.02%
0-90	1892.11	77.39%	99.99%
0-120	1892.11	77.39%	99.99%
0-180	1892.40	77.40%	100.00%
60-90	18.75	0.77%	0.99%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-16.63	1513.92	61.92%	80.00%

ZONAL LUMEN SUMMARY

0-10	901.03
10-20	807.88
20-30	150.92
30-40	4.81
40-50	4.48
50-60	4.74
60-70	6.63
70-80	9.19
80-90	2.43
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:19.0 Right:19.0
:C90/270Left:19.0 Right:19.0

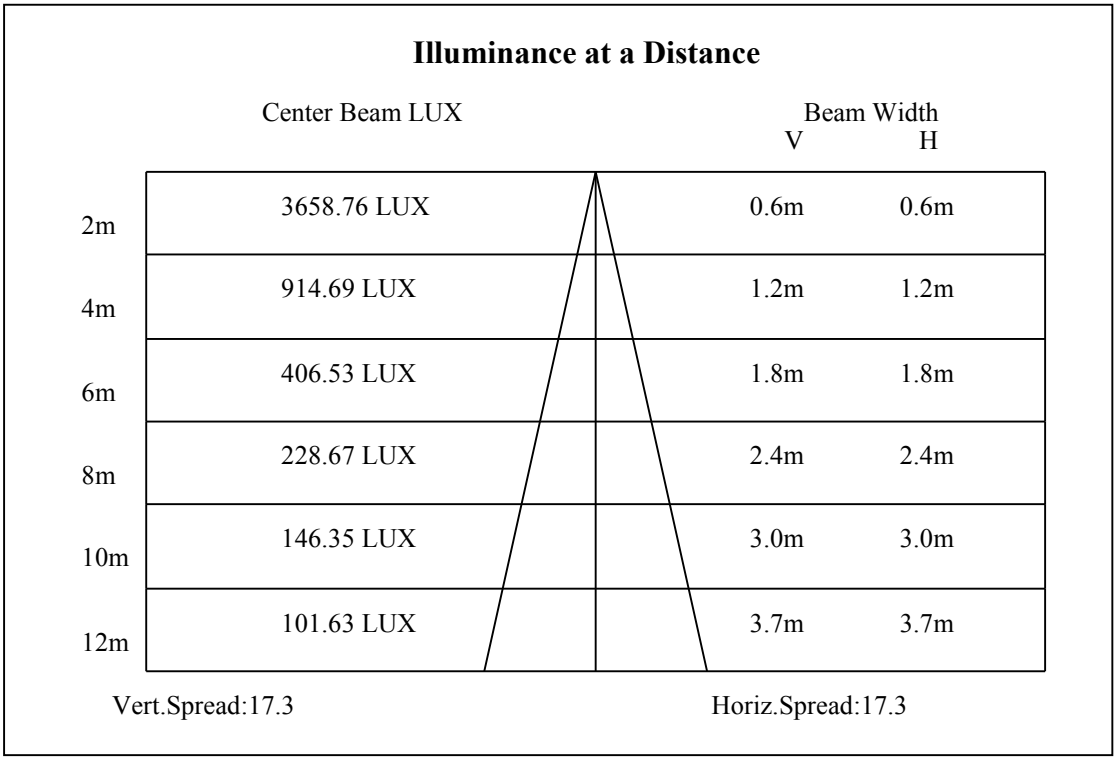
Beam Angle(50%Imax):C0/180Left:8.6 Right:8.6
:C90/270Left:8.6 Right:8.6

Equipment: GMS 1800
Temperature(°C): 25.0

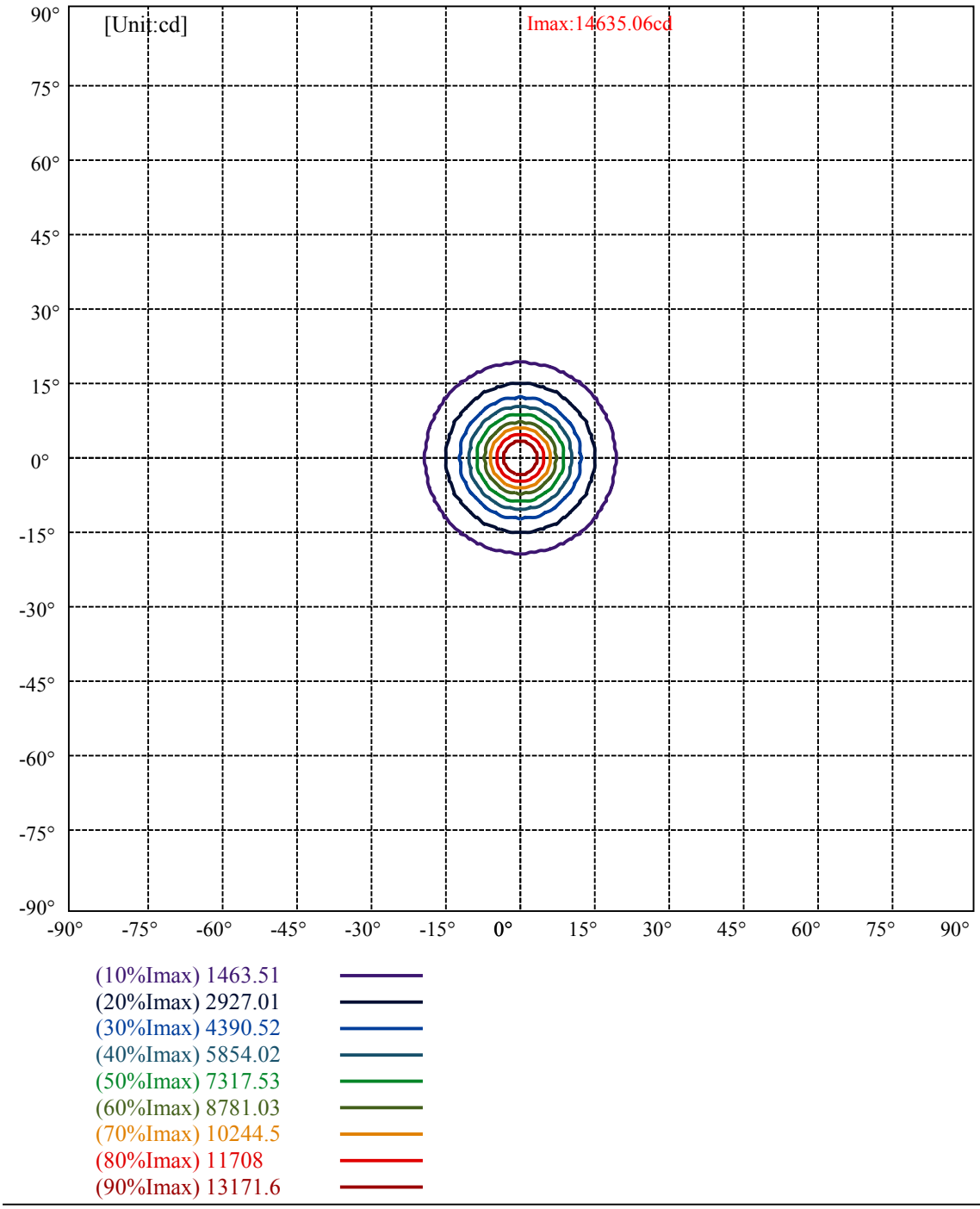
Date: 2020/3/13
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

Lux distance Curve



ISO-Intensity(V-H)

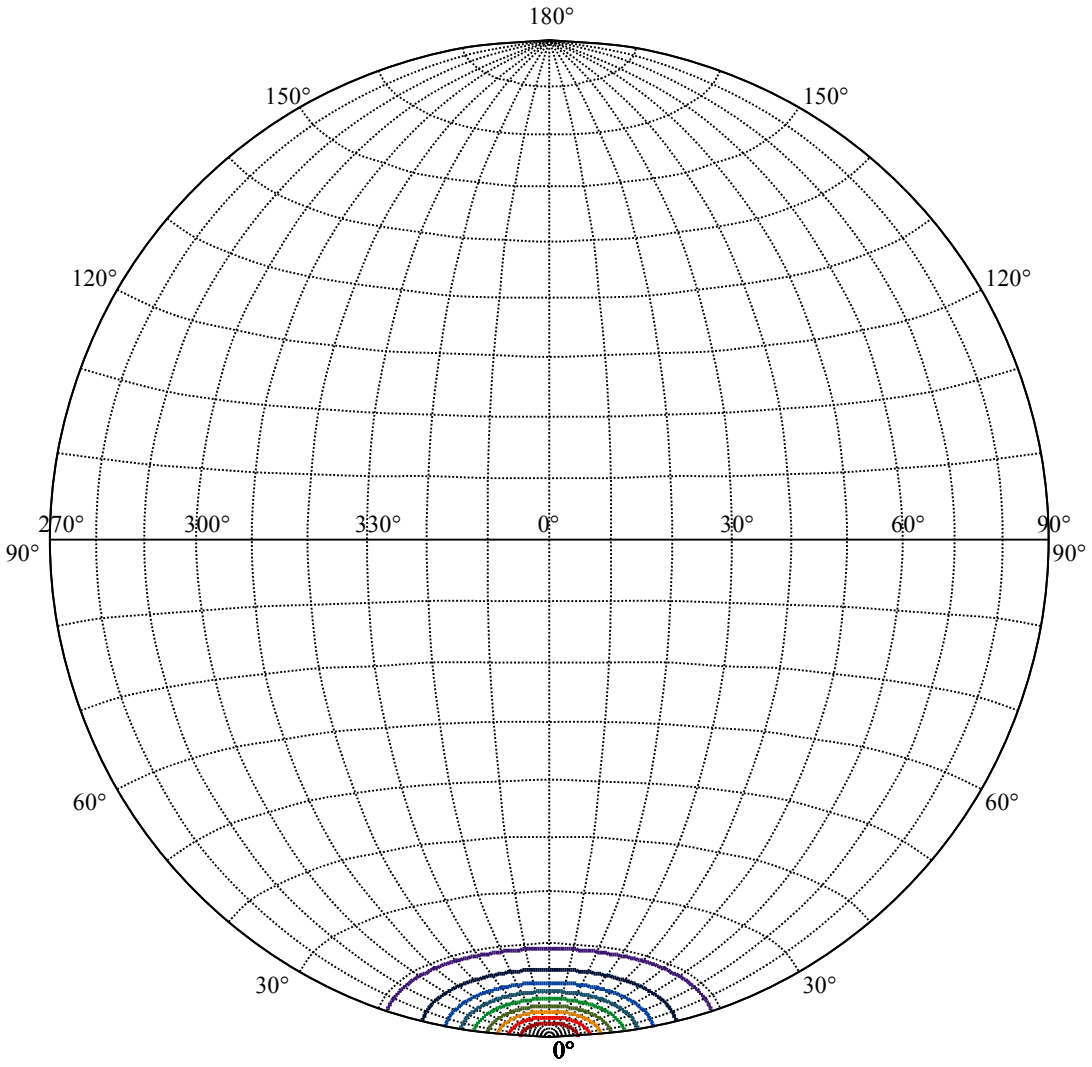


Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/3/13
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:14635.06

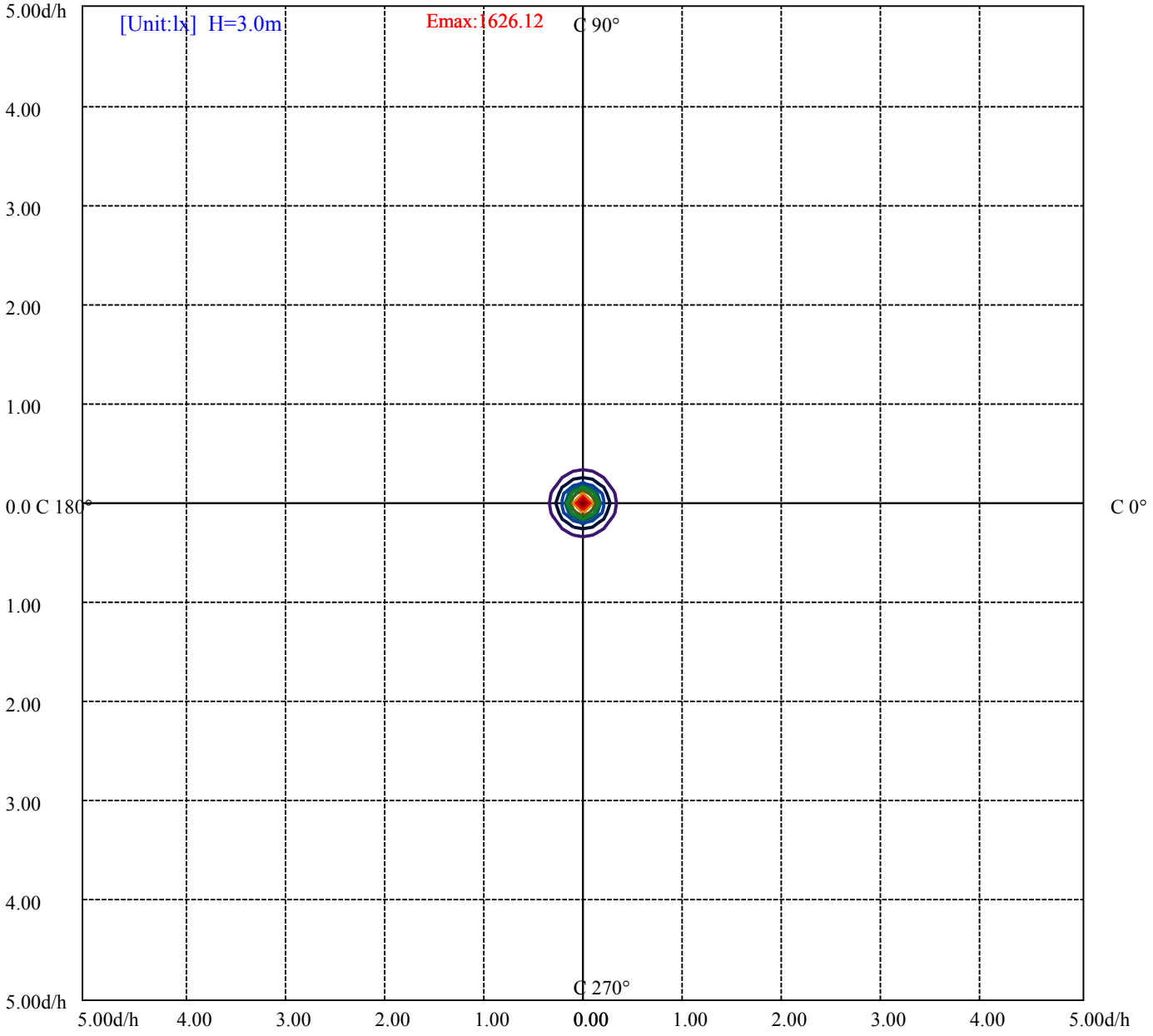
(10%Imax) 1463.51
(20%Imax) 2927.01
(30%Imax) 4390.52
(40%Imax) 5854.02
(50%Imax) 7317.53
(60%Imax) 8781.03
(70%Imax) 10244.5
(80%Imax) 11708
(90%Imax) 13171.6

Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/3/13
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

ISO illuminance diagram

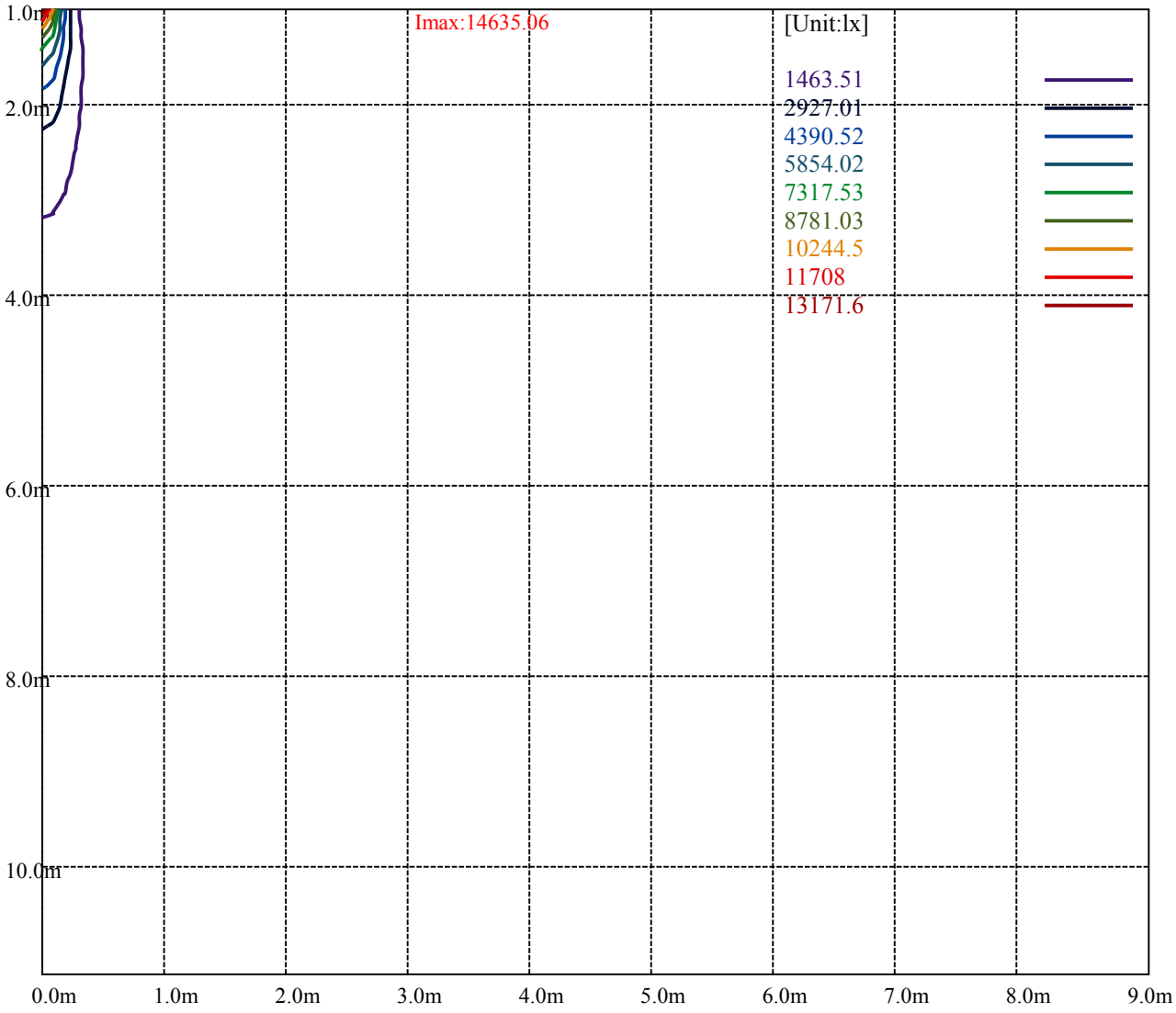


Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/3/13
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

Space ISO Lux diagram



Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/3/13
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

Luminance Limitting Curve(no luminous side)

Luminance Table

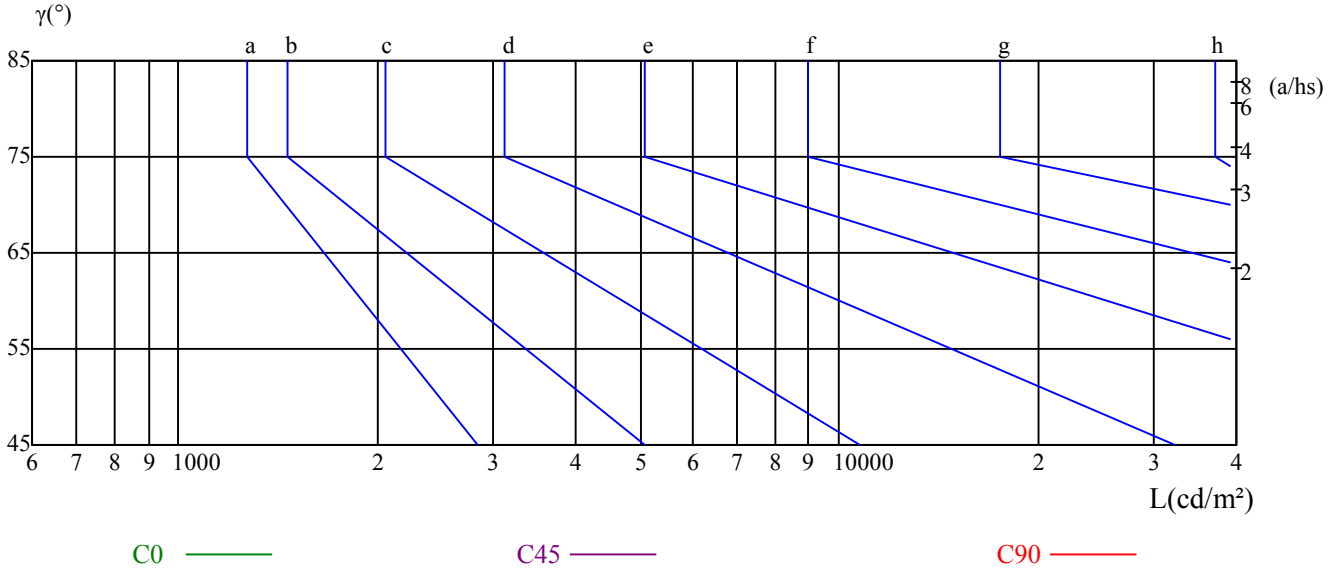
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

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

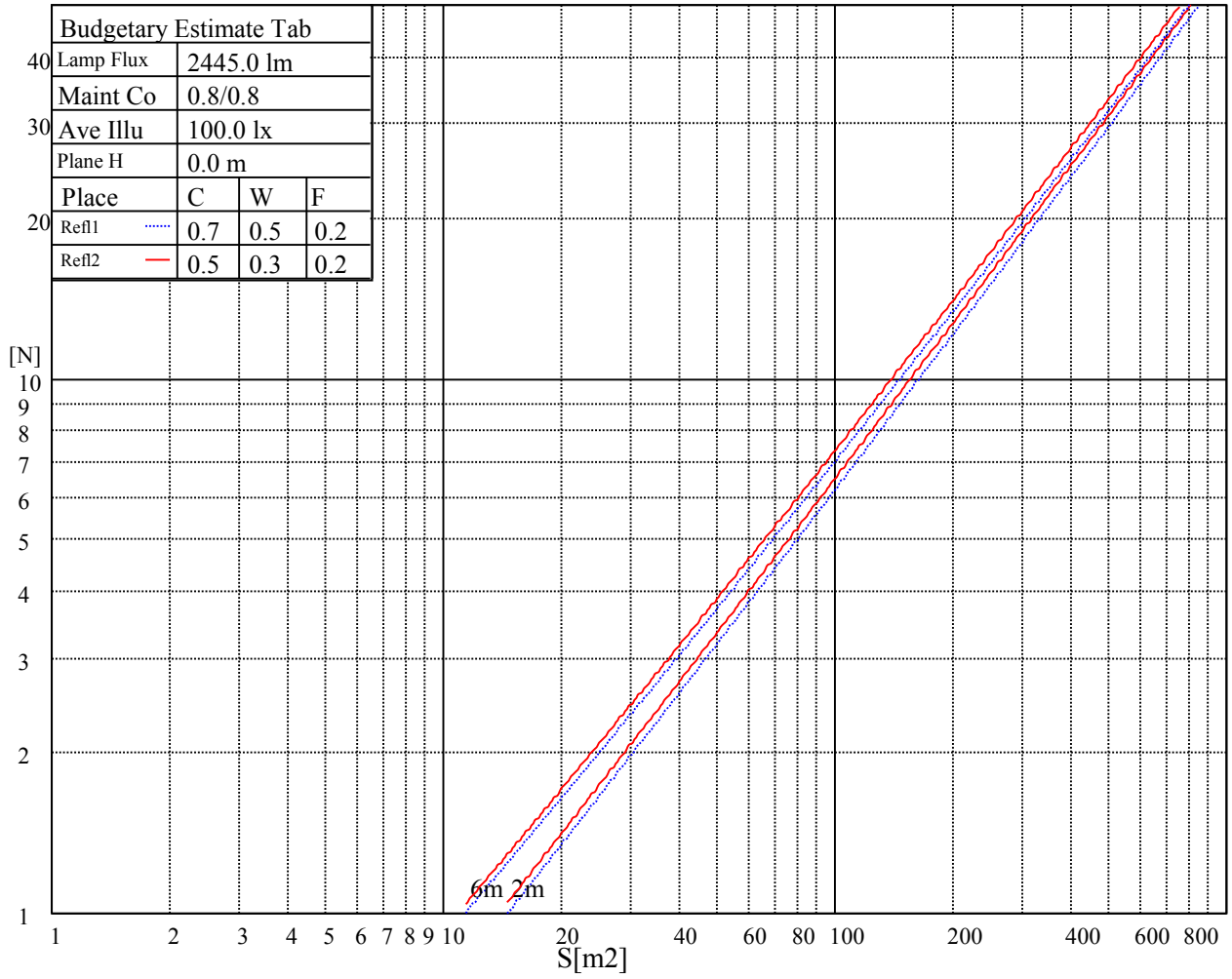
Glare Table

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

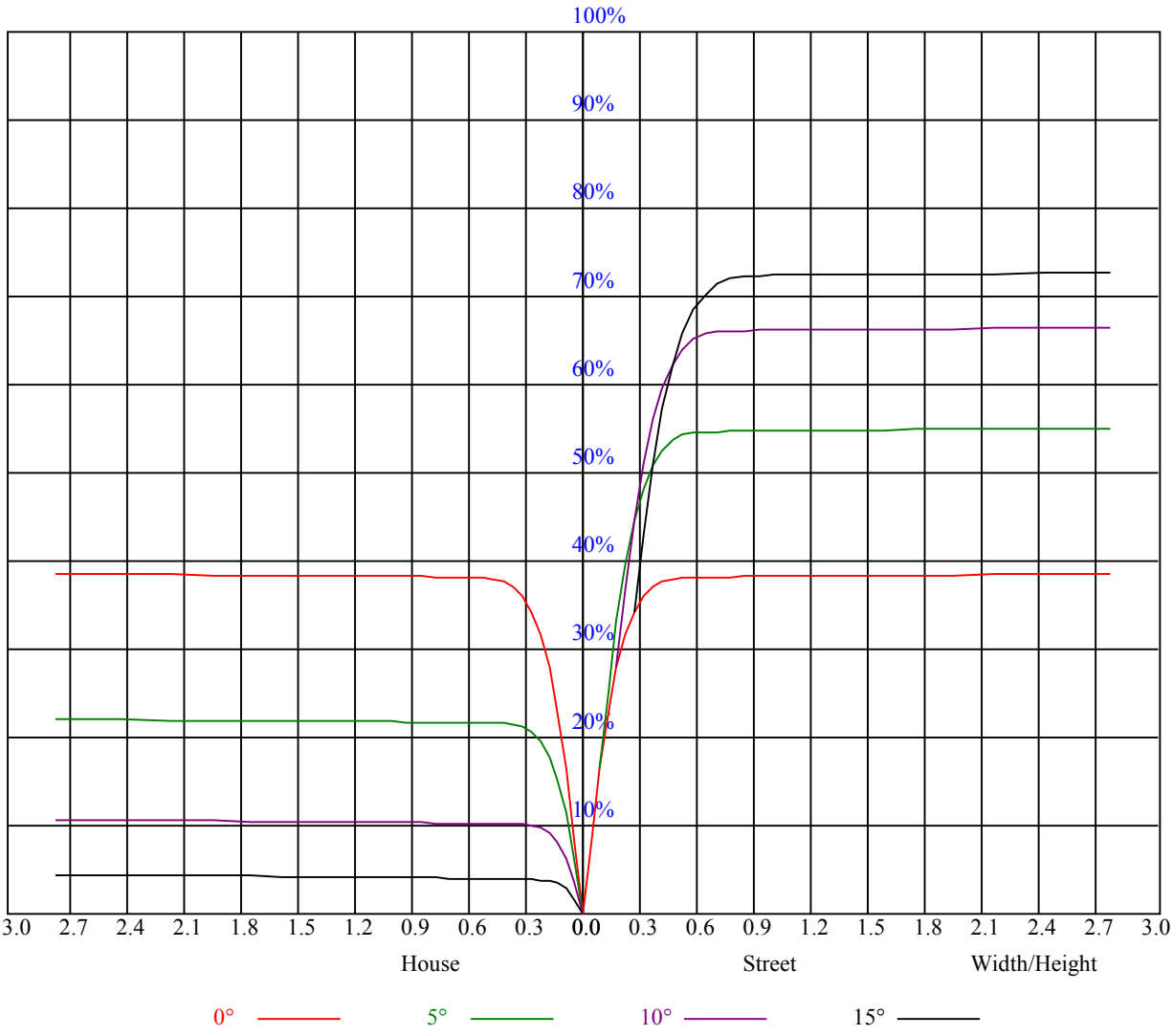


Equipment: GMS 1800 Date: 2020/3/13 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 60.0% Distance(m): 6.81

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

Coefficient Utilization Curve

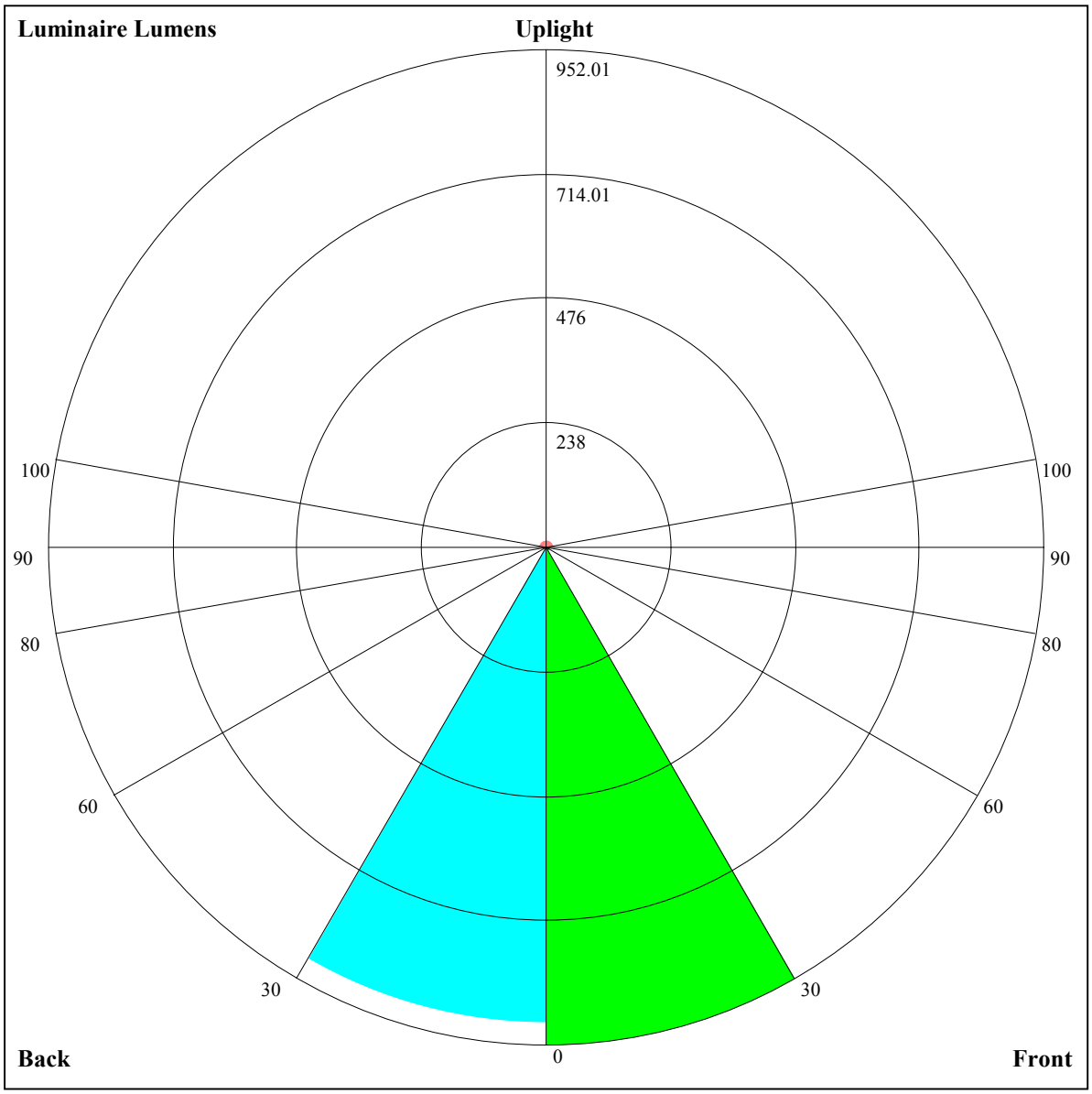


Equipment: GMS 1800
Temperature(°C): 25.0

Date: 2020/3/13
Humidity(%): 60.0%

Operator: NT07
Distance(m): 6.81

LCS Graph



Luminaire Lumens:

FL=952.01,FM=7.82,FH=9.43,FVH=1.56

BL=910.13,BM=6.21,BH=6.64,BVH=1.24

UL=2.87,UH=13.64

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	14761.51	14682.62	14357.80	13731.35	12807.93	11671.04	8795.80	8795.80	8057.06
45.0	14381.00	14789.35	14956.40	14919.28	14659.42	14079.38	13165.23	12014.43	10747.62
90.0	14821.83	14928.56	14840.39	14497.01	13828.80	12849.69	11666.40	8738.26	8738.26
135.0	14575.89	14701.18	14603.74	14427.40	13596.78	13058.50	11954.10	10701.21	9397.28
180.0	14761.51	14626.94	14232.51	13550.38	12575.91	11392.62	10093.33	8798.68	7606.11
225.0	14381.00	13675.67	12687.28	11466.87	8767.49	8767.49	7801.38	6739.67	5811.14
270.0	14821.83	14483.09	13865.92	12937.86	11773.13	10478.48	9151.34	7917.01	6831.18
315.0	14575.89	14209.31	13564.30	12622.31	11466.87	8597.19	8597.19	7440.36	6615.31
360.0	14761.51	14682.62	14357.80	13731.35	12807.93	11671.04	8795.80	8795.80	8057.06

C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	6954.98	5987.47	5122.98	4367.07	3727.16	3187.03	2730.88	2338.31	1982.86
45.0	9415.84	8139.75	7439.06	6005.20	5118.89	4650.22	3703.59	3355.57	2863.69
90.0	8002.30	6891.41	5922.97	5051.51	4295.60	3657.09	3121.60	2664.53	2270.56
135.0	8153.67	7039.99	6060.88	5197.78	4455.32	3814.96	3272.04	2808.01	2408.94
180.0	6571.32	5666.45	5174.58	4186.18	3601.50	3290.60	2840.49	2446.06	2302.21
225.0	4991.19	4282.61	3688.65	3182.39	2746.66	2365.22	2015.34	1701.66	1424.63
270.0	5879.91	5364.83	4334.68	3726.79	3397.33	2928.65	2524.95	2371.81	2302.21
315.0	5689.10	4873.79	4174.03	3585.17	3081.23	2646.43	2270.56	1929.03	1622.31
360.0	6954.98	5987.47	5122.98	4367.07	3727.16	3187.03	2730.88	2338.31	1982.86

C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1667.78	1387.04	890.57	890.57	663.38	498.46	320.18	180.83	84.87
45.0	2446.06	2446.06	1695.62	1406.53	1144.35	899.81	673.82	471.50	297.03
90.0	1919.75	1609.78	1332.29	838.60	838.60	616.33	457.26	285.01	155.40
135.0	2408.94	1742.96	1453.40	1240.41	937.86	751.32	537.40	350.39	316.98
180.0	2014.42	1492.84	1226.49	970.34	734.61	519.76	334.15	271.04	131.41
225.0	818.97	818.97	680.46	552.34	361.81	213.32	104.69	34.43	10.58
270.0	1546.67	1279.39	1023.24	781.01	561.06	368.95	243.20	243.20	46.03
315.0	1349.46	851.78	851.78	713.36	504.03	259.91	180.79	83.20	24.64
360.0	1667.78	1387.04	890.57	890.57	663.38	498.46	320.18	180.83	84.87

C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	26.96	11.83	11.09	10.49	9.93	9.47	9.10	8.82	8.49
45.0	267.33	267.33	38.42	15.92	14.34	13.46	12.71	12.16	11.65
90.0	68.26	21.62	12.85	12.16	11.51	11.00	10.58	10.21	9.88
135.0	255.26	31.23	11.55	10.49	9.79	9.19	8.91	8.31	7.84
180.0	34.66	10.35	8.68	7.98	7.42	6.91	6.45	6.08	5.85
225.0	9.14	8.45	7.84	7.24	6.77	6.40	6.08	5.71	5.43
270.0	12.44	8.63	7.98	7.38	6.87	6.45	6.08	5.75	5.38
315.0	9.05	8.21	7.70	7.24	6.87	6.50	6.17	5.99	5.80
360.0	26.96	11.83	11.09	10.49	9.93	9.47	9.10	8.82	8.49

C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	8.21	8.07	7.93	7.75	7.70	7.56	7.42	7.38	7.29
45.0	11.09	10.67	10.35	10.12	9.79	9.56	9.42	9.28	9.23
90.0	9.47	9.23	9.00	8.77	8.49	8.31	8.17	8.03	7.93
135.0	7.66	7.24	6.91	6.68	6.50	6.22	5.99	5.85	5.71
180.0	5.57	5.34	5.10	4.97	4.83	4.64	4.50	4.41	4.32
225.0	5.24	5.10	4.83	4.64	4.55	4.41	4.32	4.13	4.04
270.0	5.15	4.92	4.69	4.45	4.36	4.18	3.99	3.94	3.81
315.0	5.57	5.34	5.20	5.06	4.92	4.73	4.64	4.55	4.45
360.0	8.21	8.07	7.93	7.75	7.70	7.56	7.42	7.38	7.29

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	7.24	7.24	7.29	7.24	7.24	7.29	7.38	7.29	7.24
45.0	8.96	8.96	8.96	8.91	8.91	8.86	8.91	8.91	8.82
90.0	7.70	7.61	7.47	7.47	7.38	7.24	7.10	7.10	7.05
135.0	5.57	5.43	5.29	5.29	5.20	5.06	4.97	4.92	4.87
180.0	4.32	4.18	4.18	4.04	3.99	3.94	3.94	3.85	3.81
225.0	3.99	3.90	3.81	3.76	3.71	3.71	3.62	3.67	3.76
270.0	3.71	3.71	3.57	3.48	3.43	3.43	3.34	3.25	3.25
315.0	4.36	4.22	4.18	4.13	4.08	3.90	3.85	3.76	3.62
360.0	7.24	7.24	7.29	7.24	7.24	7.29	7.38	7.29	7.24

C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	7.24	7.19	7.19	7.19	7.29	7.42	7.61	8.07	8.26
45.0	8.77	8.77	8.77	8.77	8.72	8.82	9.05	9.37	9.84
90.0	7.01	6.96	7.05	7.15	7.19	7.19	7.29	7.33	7.42
135.0	4.78	4.69	4.64	4.64	4.59	4.45	4.36	4.32	4.27
180.0	3.76	3.81	3.85	3.81	3.85	3.90	3.90	3.85	3.85
225.0	3.76	3.81	3.90	3.94	3.85	3.90	3.94	4.08	4.13
270.0	3.20	3.16	3.11	3.16	3.11	3.02	3.06	3.02	2.97
315.0	3.48	3.39	3.39	3.34	3.39	3.48	3.48	3.43	3.39
360.0	7.24	7.19	7.19	7.19	7.29	7.42	7.61	8.07	8.26

C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	9.00	9.56	10.02	10.81	11.79	12.90	13.87	14.43	14.71
45.0	10.53	11.28	12.16	12.76	14.29	14.90	16.29	17.54	18.33
90.0	7.47	7.84	8.17	9.05	10.81	11.79	13.60	15.96	17.96
135.0	4.18	4.08	4.08	3.99	3.94	3.81	3.81	3.76	3.67
180.0	3.90	3.90	3.90	3.94	4.08	4.36	4.64	5.06	5.89
225.0	4.41	5.06	5.43	6.40	7.42	8.58	9.61	10.12	10.44
270.0	2.92	2.97	2.97	2.92	3.02	3.16	3.57	4.36	5.15
315.0	3.39	3.34	3.25	3.20	3.06	3.02	3.02	3.02	2.97
360.0	9.00	9.56	10.02	10.81	11.79	12.90	13.87	14.43	14.71

C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	14.80	14.66	14.29	13.69	12.06	9.98	7.56	5.10	3.53
45.0	18.84	19.21	19.44	19.35	19.07	18.51	17.08	14.66	11.18
90.0	19.68	20.97	21.72	20.79	17.96	13.64	10.02	6.08	4.08
135.0	3.62	3.62	3.57	3.53	3.39	3.39	3.29	3.11	3.06
180.0	6.36	6.73	6.87	6.82	6.50	6.03	5.20	4.13	3.20
225.0	10.58	10.44	9.93	8.68	6.96	5.10	3.62	3.06	2.46
270.0	6.13	6.77	6.77	6.22	5.10	3.62	2.83	2.37	2.18
315.0	2.92	2.92	2.83	2.69	2.60	2.55	2.46	2.32	2.23
360.0	14.80	14.66	14.29	13.69	12.06	9.98	7.56	5.10	3.53

C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	2.18	1.81	1.67	1.72	1.86	2.13	2.27	2.37	2.55
45.0	7.47	5.80	4.83	4.08	3.67	3.34	3.39	3.62	4.32
90.0	3.67	3.48	3.25	3.20	3.20	3.25	3.39	3.99	4.27
135.0	2.74	2.55	2.37	2.23	2.09	2.00	2.00	2.09	2.23
180.0	2.69	2.32	1.95	1.67	1.67	1.58	1.53	1.48	1.48
225.0	2.00	1.72	1.62	1.58	1.58	1.62	1.58	1.81	2.09
270.0	1.90	1.72	1.67	1.58	1.48	1.44	1.44	1.62	1.76
315.0	2.09	1.90	1.81	1.62	1.53	1.48	1.48	1.48	1.39
360.0	2.18	1.81	1.67	1.72	1.86	2.13	2.27	2.37	2.55

Intensity data(cd)

C/γ(°)	90.0
0.0	2.74
45.0	4.69
90.0	4.55
135.0	2.37
180.0	1.48
225.0	2.04
270.0	1.72
315.0	1.44
360.0	2.74