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

NATA

LumCAT: 1406-N
Luminaire: 92.70.046.00
Report No: NATA0100
Test No: GC2018121310
LampCAT: CREE CXA1512
Lamp flux(lm): 2006.0
Number of Lamps: 1
Length(mm): 39
Phm Type: C

Voltage(V): 36.1000
Current(A): 0.4000
Power (W): 14.4400
PF: 0.0000
Ballast type: DC
Width(mm): 39
Height(mm): 0

Photometric Results

Lumens(lm): 1721.85
Efficiency(%): 85.83%
Lumens(lm)/Power(W): 120.19
Central intensity(cd): 2552.766
Maximum intensity(cd): 2552.766
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=37.4
[C90/270]Total=37.4
Field angle(10%Imax): [C0/180]Total=88.7
[C90/270]Total=88.7
Maximum s/h(1/2): C0_180=0.60 C90_270=0.60
Maximum s/h(1/4): C0_180=0.66 C90_270=0.66
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 86.51%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 95.375%

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	2552.766	15.266	15.266	.761%	.887%
5.0	2424.445	115.824	131.09	5.774%	7.613%
10.0	2084.414	198.401	329.491	9.890%	19.136%
15.0	1614.656	229.069	558.559	11.419%	32.440%
20.0	1159.741	217.421	775.981	10.839%	45.067%
25.0	852.145	197.402	973.383	9.841%	56.531%
30.0	644.302	176.583	1149.966	8.803%	66.787%
35.0	487.273	153.198	1303.164	7.637%	75.684%
40.0	355.767	125.350	1428.513	6.249%	82.964%
45.0	239.773	92.934	1521.447	4.633%	88.361%
50.0	146.665	61.584	1583.031	3.070%	91.938%
55.0	92.890	41.708	1624.739	2.079%	94.360%
60.0	64.195	30.474	1655.213	1.519%	96.130%
65.0	45.105	22.408	1677.621	1.117%	97.431%
70.0	32.583	16.783	1694.403	.837%	98.406%
75.0	22.823	12.084	1706.487	.602%	99.108%
80.0	15.427	8.327	1714.815	.415%	99.592%
85.0	9.380	5.122	1719.937	.255%	99.889%
90.0	6.975	1.912	1721.848	.095%	100.000%

Zonal flux distribution table

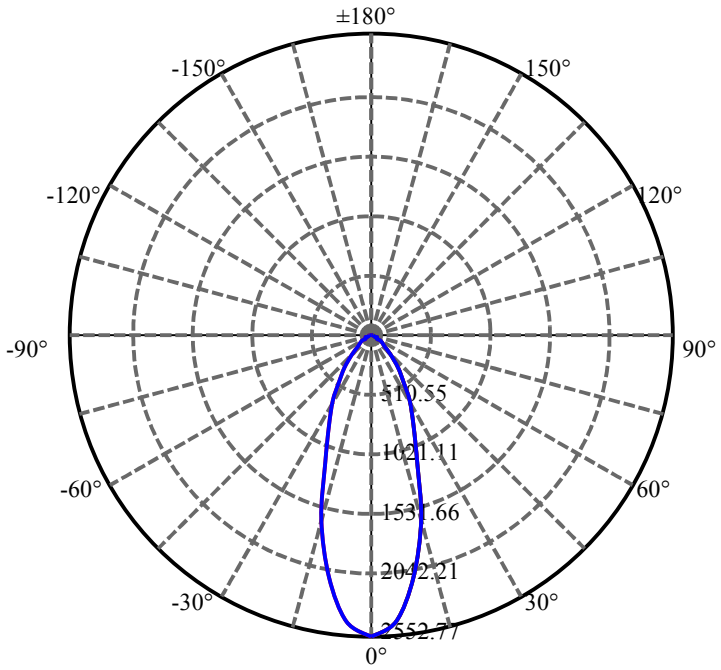
ZONAL LUMEN SUMMARY

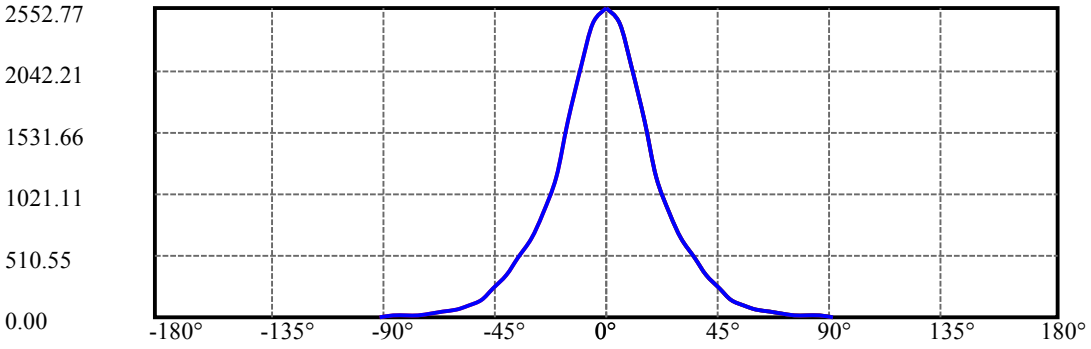
Zone	Lumens	%Lamp	%Fixt
0-30	1149.97	57.33%	66.79%
0-40	1428.51	71.21%	82.96%
0-60	1655.21	82.51%	96.13%
0-90	1719.94	85.74%	99.89%
0-120	1719.94	85.74%	99.89%
0-180	1721.85	85.83%	100.00%
60-90	95.20	4.75%	5.53%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-37.96	1377.48	68.67%	80.00%

ZONAL LUMEN SUMMARY

0-10	329.49
10-20	446.49
20-30	373.98
30-40	278.55
40-50	154.52
50-60	72.18
60-70	39.19
70-80	20.41
80-90	5.12
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:44.3 Right:44.3
:C90/270Left:44.3 Right:44.3

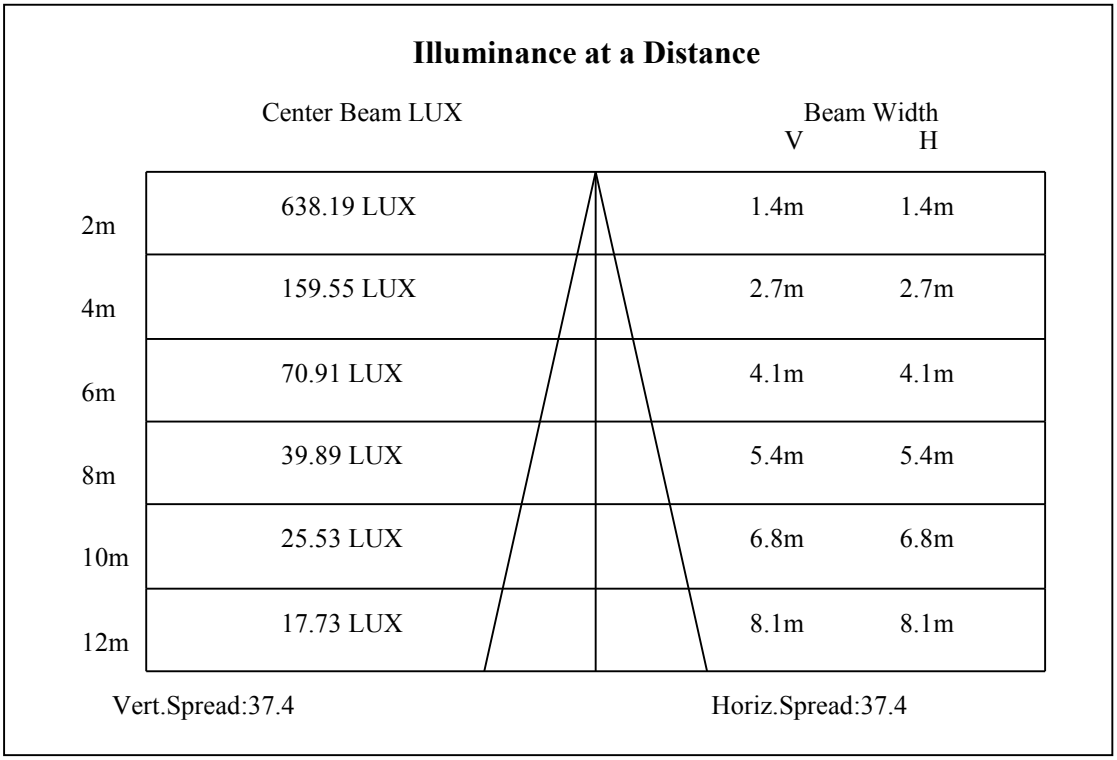
Beam Angle(50%Imax):C0/180Left:18.7 Right:18.7
:C90/270Left:18.7 Right:18.7

Equipment: GMS1980
Temperature(°C): 25.0

Date: 2018/12/13
Humidity(%): 65.0%

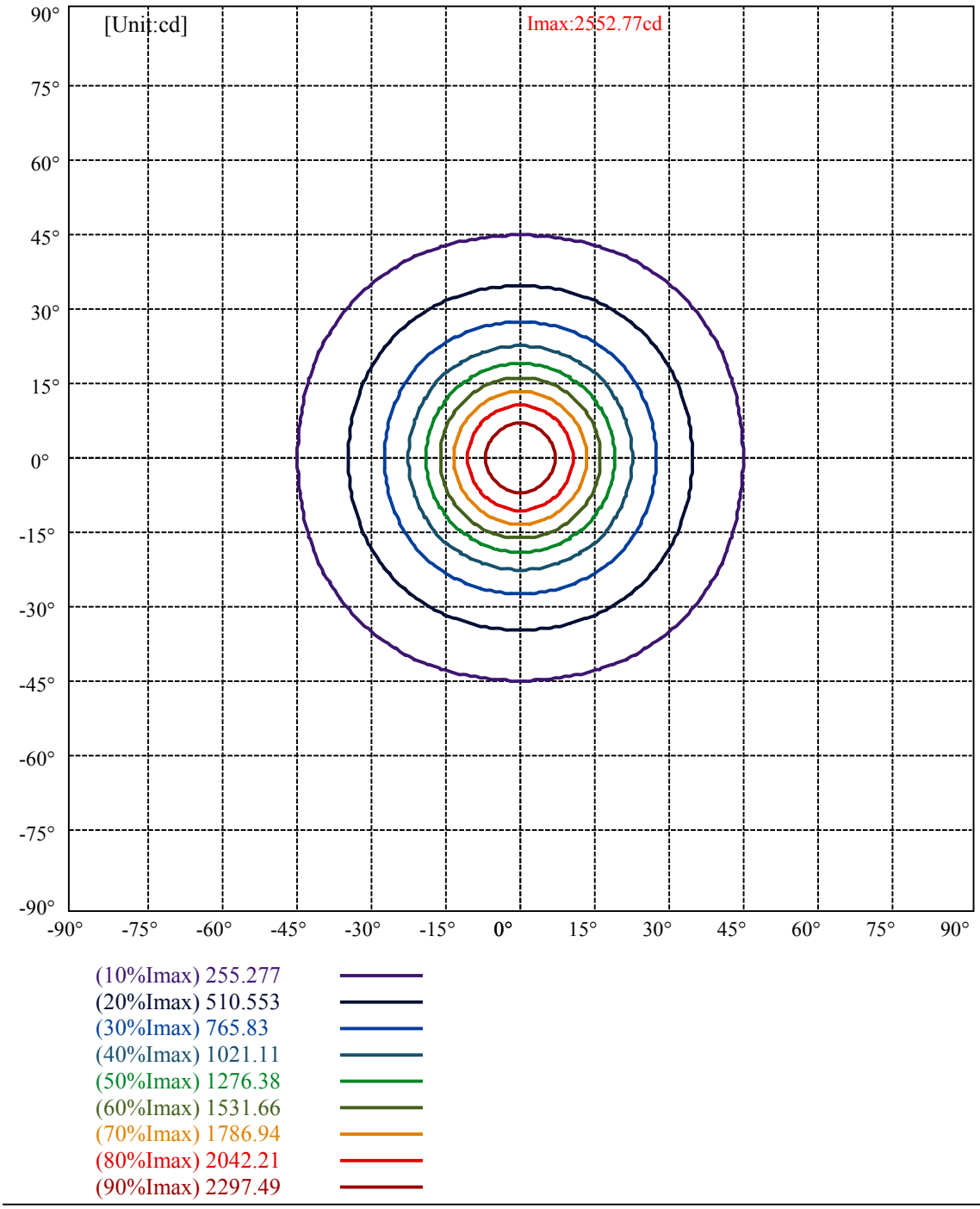
Operator: NT07
Distance(m): 7.50

Lux distance Curve



Equipment: GMS1980 Date: 2018/12/13 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

ISO-Intensity(V-H)

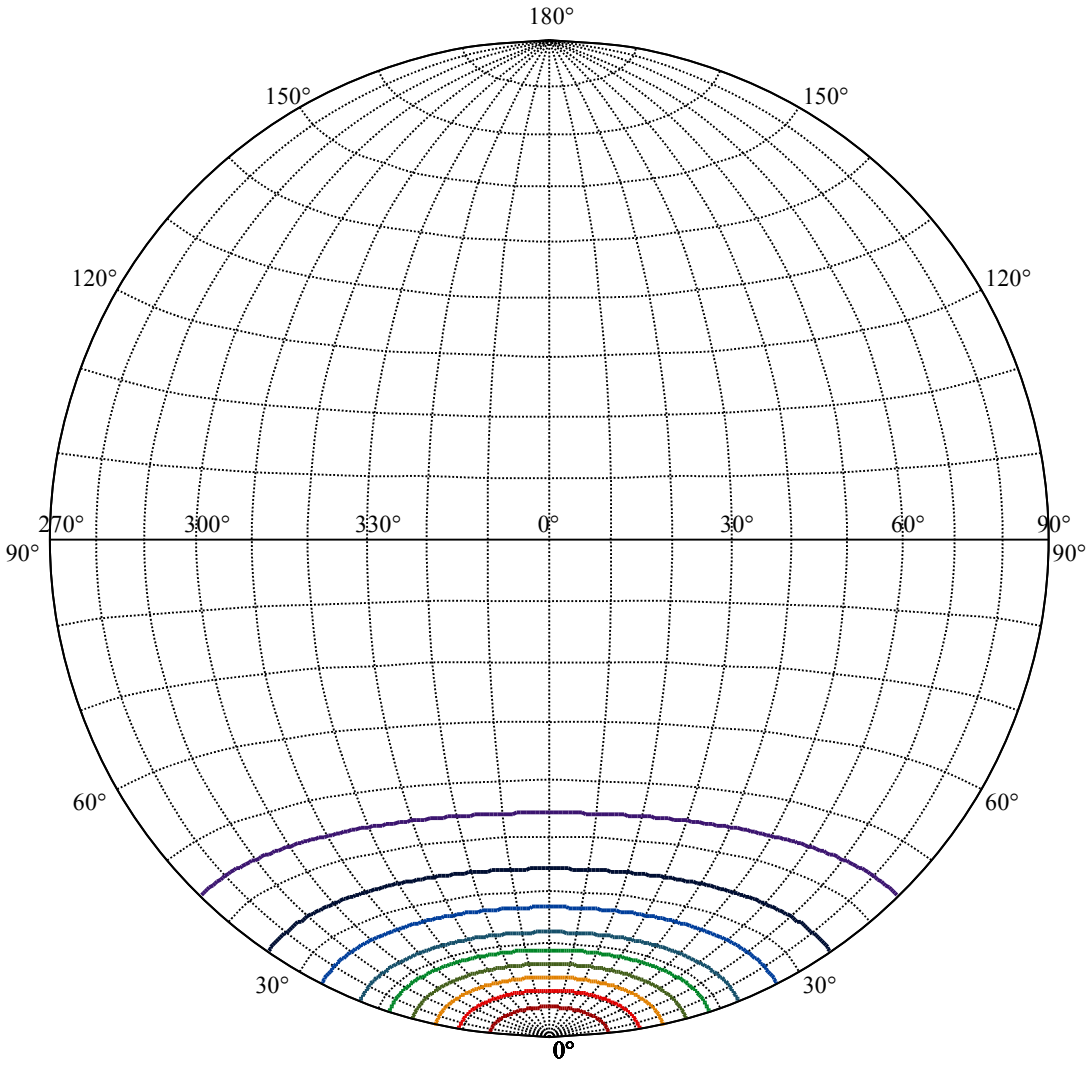


Equipment: GMS1980
Temperature(°C): 25.0

Date: 2018/12/13
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



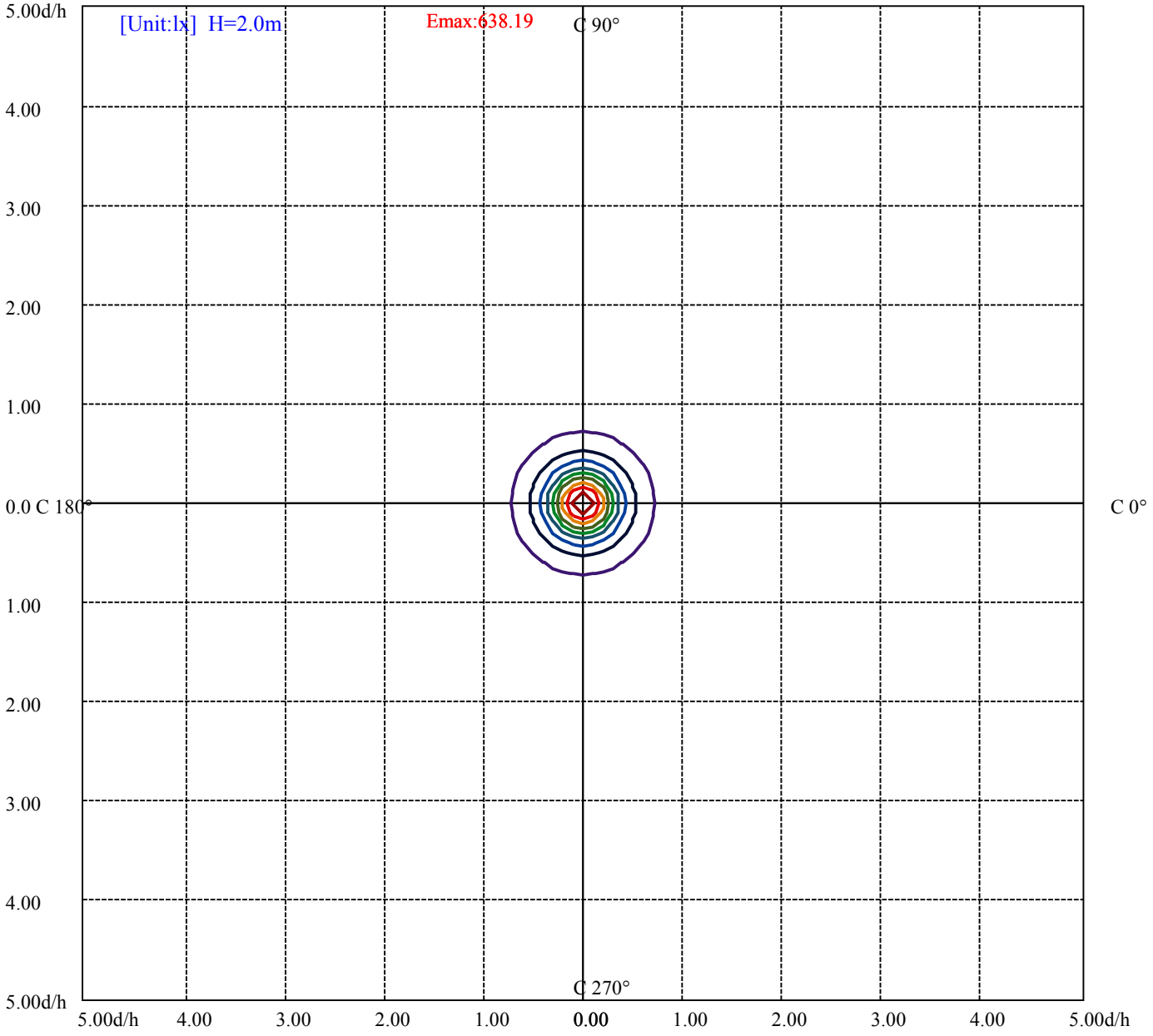
House [Unit:cd] Road

Imax:2552.77

(10%Imax) 255.277
(20%Imax) 510.553
(30%Imax) 765.83
(40%Imax) 1021.11
(50%Imax) 1276.38
(60%Imax) 1531.66
(70%Imax) 1786.94
(80%Imax) 2042.21
(90%Imax) 2297.49

Equipment: GMS1980 Date: 2018/12/13 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

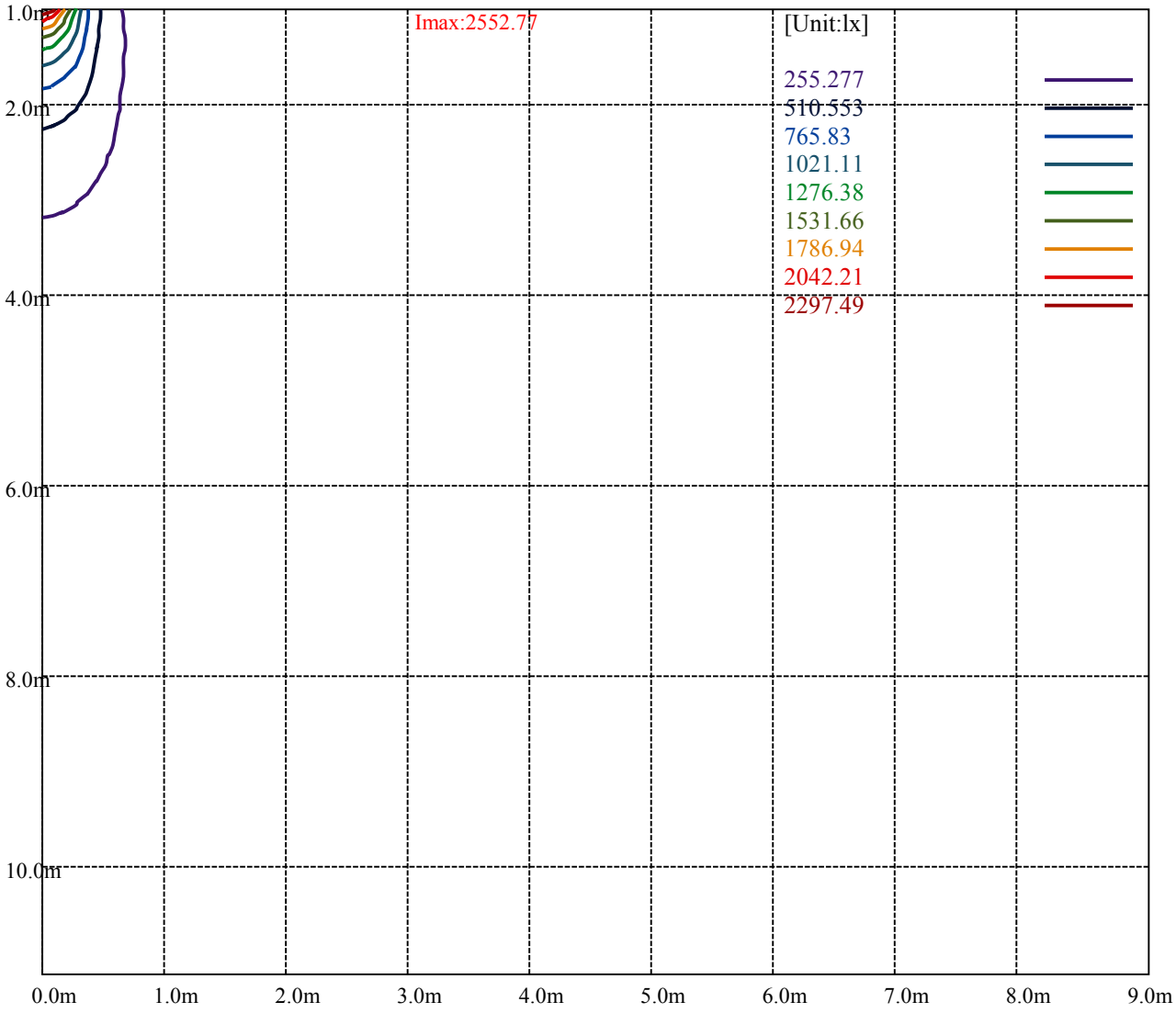
ISO illuminance diagram



(10%Emax) 63.819
(20%Emax) 127.638
(30%Emax) 191.457
(40%Emax) 255.275
(50%Emax) 319.095
(60%Emax) 382.915
(70%Emax) 446.7325
(80%Emax) 510.5525
(90%Emax) 574.3725

Equipment: GMS1980
Temperature(°C): 25.0
Date: 2018/12/13
Humidity(%): 65.0%
Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 25.0

Date: 2018/12/13
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Luminance Limitting Curve(no luminous side)

Luminance Table

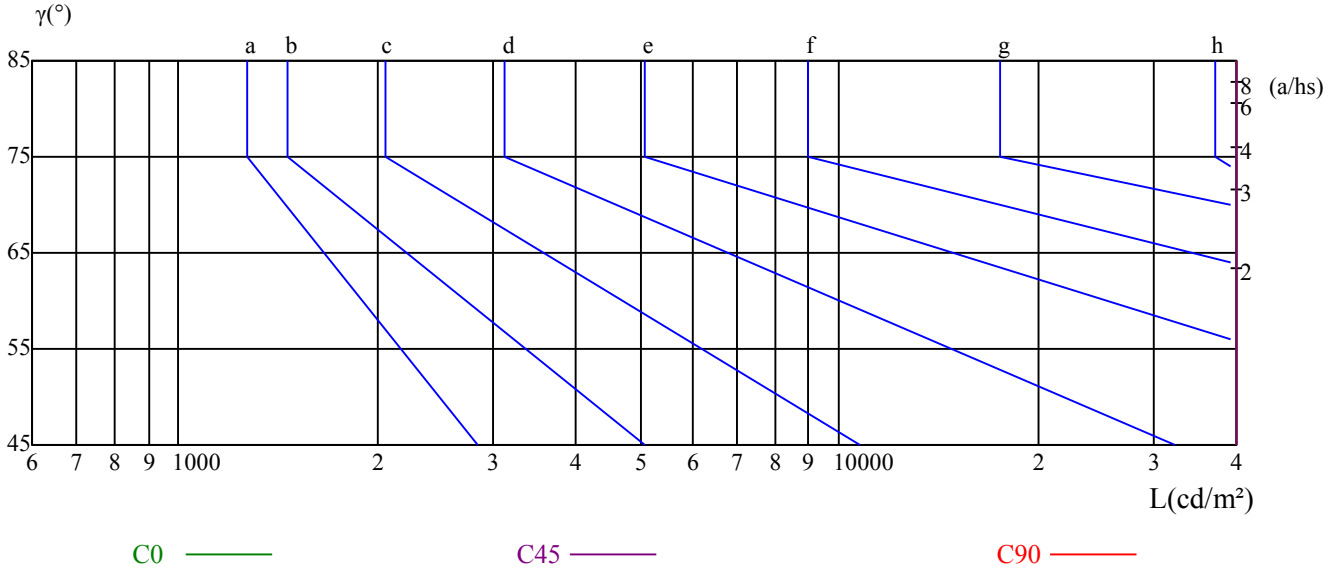
γ	45	50	55	60	65	70	75	80	85
C0	222939	150013	106475	84412	70170	62634	57977	58408	70756
C45	222939	150013	106475	84412	70170	62634	57977	58408	70756
C90	222939	150013	106475	84412	70170	62634	57977	58408	70756

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
70170	70170	70170	57977	57977	57977	70756	70756	70756

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



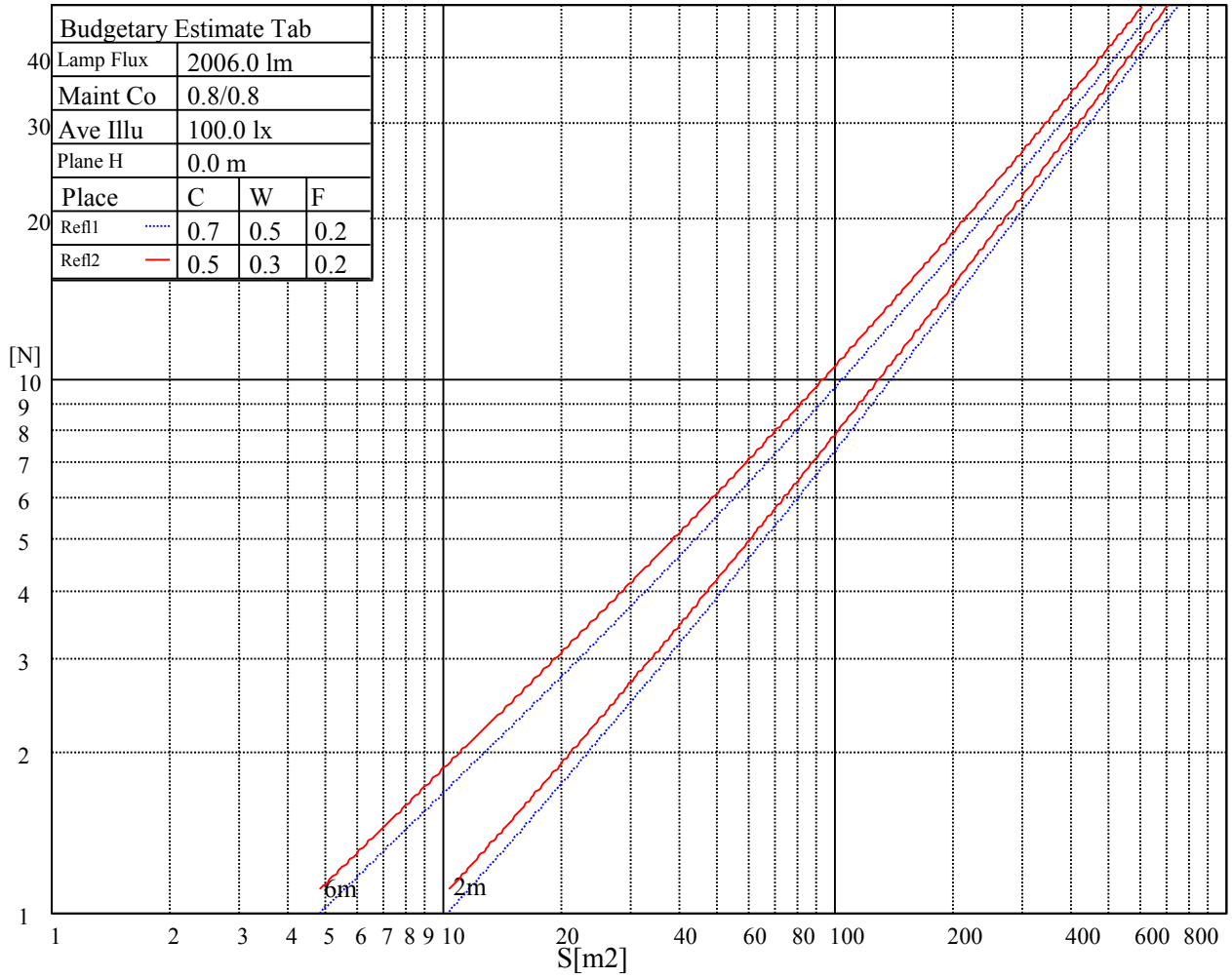
UGR Glare

Illumination assessment according UGR											
Rf of Ceiling		70	70	50	50	30	70	70	50	50	30
Rf of Wall		50	30	50	30	30	50	30	50	30	30
Rf of Floor		20	20	20	20	20	20	20	20	20	20
Room dimensions		Viewed crosswise					Viewed endwise				
X	Y										
2H	2H	22.22	23.39	22.58	23.70	24.01	22.23	23.40	22.60	23.71	24.03
	3H	23.24	24.27	23.62	24.60	24.97	23.30	24.33	23.68	24.66	25.03
	4H	23.65	24.61	24.05	24.96	25.35	23.72	24.68	24.12	25.03	25.41
	6H	24.02	24.90	24.43	25.27	25.67	24.08	24.96	24.50	25.34	25.73
	8H	24.18	25.01	24.61	25.40	25.81	24.24	25.07	24.68	25.47	25.87
	12H	24.45	25.25	24.89	25.63	26.06	24.51	25.30	24.94	25.68	26.11
4H	2H	22.49	23.45	22.89	23.80	24.18	22.50	23.46	22.90	23.81	24.20
	3H	23.73	24.51	24.14	24.92	25.32	23.78	24.57	24.20	24.97	25.38
	4H	24.27	24.97	24.70	25.39	25.83	24.33	25.03	24.77	25.45	25.90
	6H	24.70	25.31	25.17	25.75	26.22	24.76	25.37	25.23	25.81	26.28
	8H	24.93	25.50	25.41	25.95	26.42	24.99	25.55	25.46	26.00	26.47
	12H	25.26	25.75	25.74	26.23	26.71	25.30	25.79	25.79	26.28	26.75
8H	4H	24.44	25.00	24.91	25.45	25.92	24.49	25.05	24.96	25.50	25.98
	6H	25.03	25.48	25.53	25.98	26.46	25.08	25.53	25.58	26.03	26.52
	8H	25.36	25.77	25.89	26.29	26.78	25.41	25.82	25.94	26.34	26.83
	12H	26.18	26.53	26.70	27.03	27.61	26.21	26.57	26.73	27.07	27.64
12H	4H	24.44	24.93	24.93	25.42	25.89	24.49	24.99	24.98	25.47	25.95
	6H	25.52	25.49	25.61	25.95	26.50	25.57	25.54	25.66	26.00	26.55
	8H	25.48	25.84	26.00	26.34	26.91	25.53	25.88	26.04	26.38	26.95

Variation with the observer position at spacings:		
S = 1.0H	1.1/-1.9	1.1/-1.9
S = 1.5H	2.3/-2.4	2.3/-2.4
S = 2.0H	4.1/-2.5	4.1/-2.5
Standard tables:	BK2	BK2
Uncorrected UGR	10.5	10.5

Equipment: GMS1980 Date: 2018/12/13 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

Budgetary Estimate Table

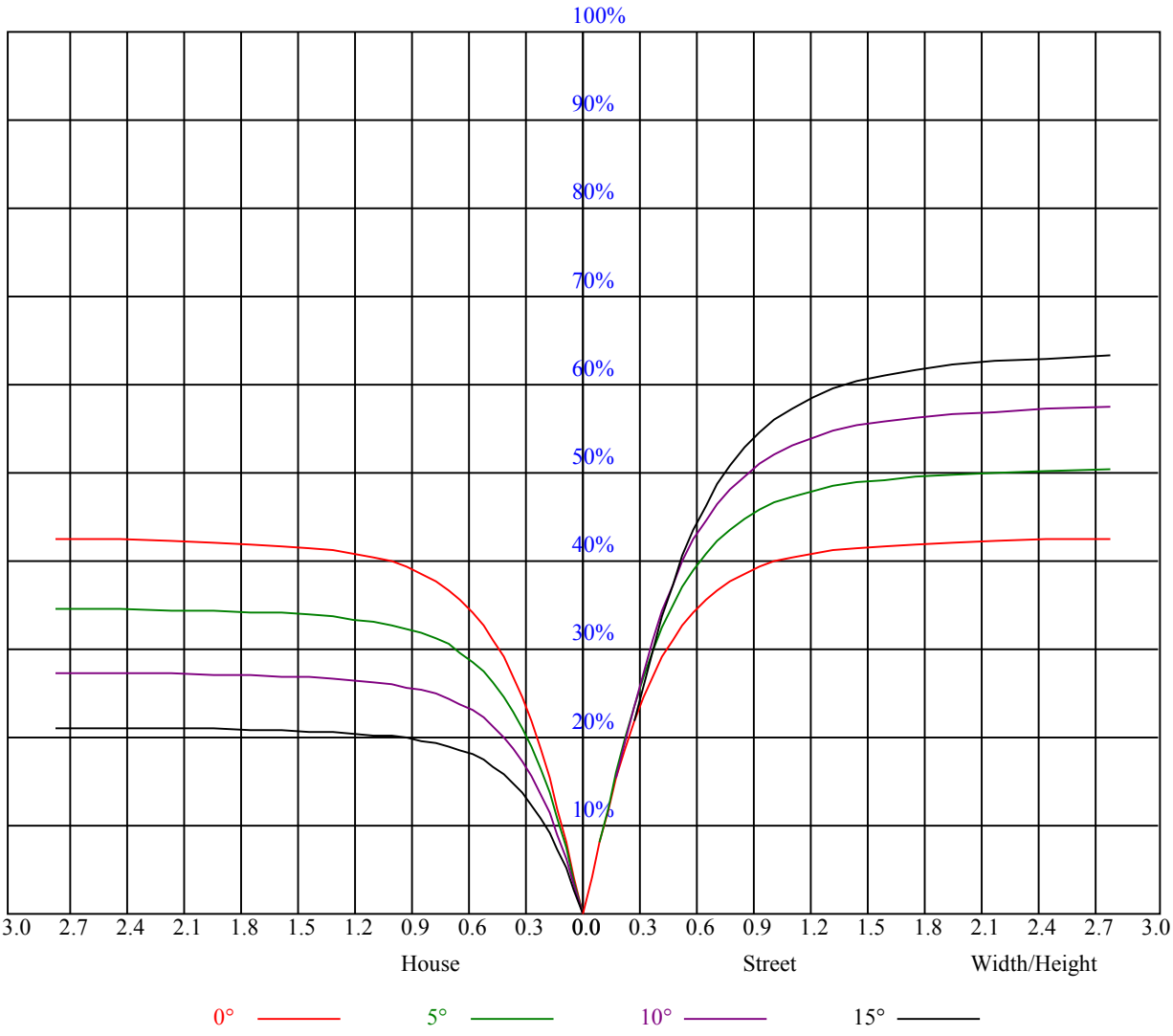


Equipment: GMS1980 Date: 2018/12/13 Operator: NT07
Temperature(°C): 25.0 Humidity(%): 65.0% Distance(m): 7.50

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	1.03	1.03	1.03	1.01	1.01	1.01	0.96	0.96	0.96	0.92	0.92	0.92	0.88	0.88	0.88	0.87
1	0.94	0.92	0.89	0.92	0.90	0.88	0.89	0.87	0.85	0.86	0.84	0.83	0.83	0.81	0.80	0.79
2	0.87	0.83	0.80	0.86	0.82	0.79	0.83	0.80	0.77	0.80	0.78	0.76	0.78	0.76	0.74	0.73
3	0.81	0.76	0.73	0.80	0.76	0.72	0.78	0.74	0.71	0.75	0.72	0.70	0.73	0.71	0.69	0.67
4	0.76	0.71	0.67	0.75	0.70	0.66	0.73	0.69	0.66	0.71	0.68	0.65	0.69	0.66	0.64	0.63
5	0.71	0.66	0.62	0.70	0.65	0.61	0.69	0.64	0.61	0.67	0.63	0.60	0.66	0.62	0.60	0.59
6	0.67	0.61	0.58	0.66	0.61	0.57	0.65	0.60	0.57	0.64	0.60	0.57	0.62	0.59	0.56	0.55
7	0.63	0.58	0.54	0.62	0.57	0.54	0.61	0.57	0.54	0.60	0.56	0.53	0.59	0.56	0.53	0.52
8	0.60	0.54	0.51	0.59	0.54	0.51	0.58	0.54	0.51	0.57	0.53	0.50	0.57	0.53	0.50	0.49
9	0.57	0.52	0.48	0.56	0.51	0.48	0.55	0.51	0.48	0.55	0.51	0.48	0.54	0.50	0.48	0.46
10	0.54	0.49	0.46	0.54	0.49	0.46	0.53	0.49	0.46	0.52	0.48	0.45	0.52	0.48	0.45	0.44

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2018/12/13	Operator: NT07
Temperature(°C): 25.0	Humidity(%): 65.0%	Distance(m): 7.50

Intensity data(cd)

C/γ(°)	0.0	5.0	10.0	15.0	20.0	25.0	30.0	35.0	40.0
0.0	2553.19	2458.69	2147.06	1681.31	1262.81	904.50	674.44	505.13	370.69
45.0	2552.63	2417.63	2071.13	1586.81	1182.38	847.69	642.38	490.50	354.94
90.0	2549.81	2341.13	1964.81	1472.63	1037.25	773.27	586.01	437.91	317.36
135.0	2555.44	2409.19	2076.19	1585.69	1145.25	822.38	618.19	469.13	352.69
180.0	2553.19	2401.88	2020.50	1537.31	1104.75	801.11	602.89	461.42	334.69
225.0	2552.63	2444.06	2104.31	1635.75	1115.61	870.30	654.64	499.67	362.93
270.0	2549.81	2485.13	2199.38	1772.44	1324.13	947.81	715.50	539.44	395.44
315.0	2555.44	2437.88	2091.94	1645.31	1105.76	850.11	660.38	495.00	357.41
360.0	2553.19	2458.69	2147.06	1681.31	1262.81	904.50	674.44	505.13	370.69

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	286.88	151.54	98.61	67.56	47.03	34.31	23.74	15.92	9.39
45.0	225.39	146.19	91.74	62.66	45.11	31.73	21.99	14.29	8.66
90.0	202.39	128.81	84.83	59.46	41.91	29.64	20.98	13.50	8.33
135.0	228.60	144.28	93.43	64.07	45.11	32.63	23.23	15.24	8.89
180.0	216.17	139.89	88.59	61.71	44.27	32.29	22.39	15.13	9.17
225.0	234.68	149.01	92.14	62.66	43.93	32.68	23.23	15.92	10.07
270.0	287.44	165.54	100.63	70.09	47.48	34.48	24.36	17.44	10.58
315.0	236.64	148.05	93.15	65.36	46.01	32.91	22.67	15.98	9.96
360.0	286.88	151.54	98.61	67.56	47.03	34.31	23.74	15.92	9.39

C/γ(°)	90.0
0.0	6.92
45.0	6.92
90.0	7.09
135.0	6.86
180.0	6.92
225.0	6.98
270.0	7.09
315.0	7.03
360.0	6.92