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NATA

LumCAT: 1497-E
Luminaire: 92.70.051.00

Report No: NATA0100	Voltage(V): 10.2400
Test No: GC2019010813	Current(A): 0.6000
LampCAT: BRIDGELUX V6	Power (W): 6.1440
Lamp flux(lm): 519.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 44	Width(mm): 44
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 457.00
Efficiency(%): 88.05%
Lumens(lm)/Power(W): 75.04
Central intensity(cd): 748.153
Maximum intensity(cd): 748.153
Angle of maximum intensity: C=0.0 γ=0.0
Beam Angle(50%Imax): [C0/180]Total=41.5
[C90/270]Total=41.5
Field angle(10%Imax): [C0/180]Total=78.4
[C90/270]Total=78.4
Maximum s/h(1/2): C0_180=0.66 C90_270=0.66
Maximum s/h(1/4): C0_180=0.71 C90_270=0.71
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 88.83%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.305%

Equipment: GMS1980	Date: 2019/1/8	Operator: NT07
Temperature(°C): 10.0	Humidity(%): 65.0%	Distance(m): 7.50

Zonal flux distribution table

γ(°)	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	748.153	4.474	4.474	.862%	.979%
5.0	715.725	34.193	38.667	6.588%	8.461%
10.0	629.895	59.955	98.622	11.552%	21.580%
15.0	512.030	72.641	171.263	13.996%	37.475%
20.0	390.445	73.198	244.461	14.104%	53.492%
25.0	284.583	65.924	310.386	12.702%	67.918%
30.0	216.752	59.405	369.791	11.446%	80.917%
35.0	140.822	44.274	414.065	8.531%	90.604%
40.0	61.966	21.833	435.898	4.207%	95.382%
45.0	14.224	5.513	441.411	1.062%	96.588%
50.0	7.327	3.076	444.487	.593%	97.261%
55.0	4.690	2.106	446.593	.406%	97.722%
60.0	4.261	2.023	448.616	.390%	98.165%
65.0	4.085	2.029	450.645	.391%	98.609%
70.0	3.916	2.017	452.663	.389%	99.050%
75.0	2.770	1.467	454.129	.283%	99.371%
80.0	2.257	1.218	455.348	.235%	99.638%
85.0	2.081	1.136	456.484	.219%	99.887%
90.0	1.891	0.518	457.003	.100%	100.000%

Zonal flux distribution table

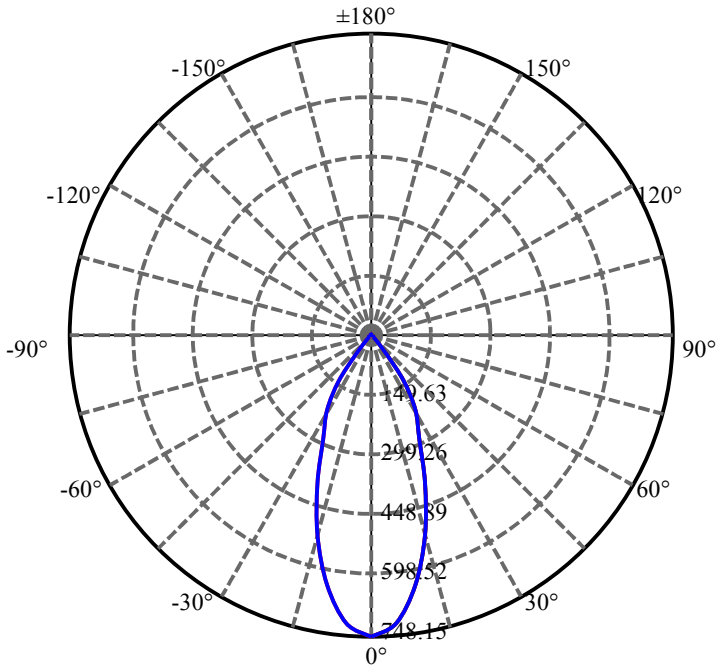
ZONAL LUMEN SUMMARY

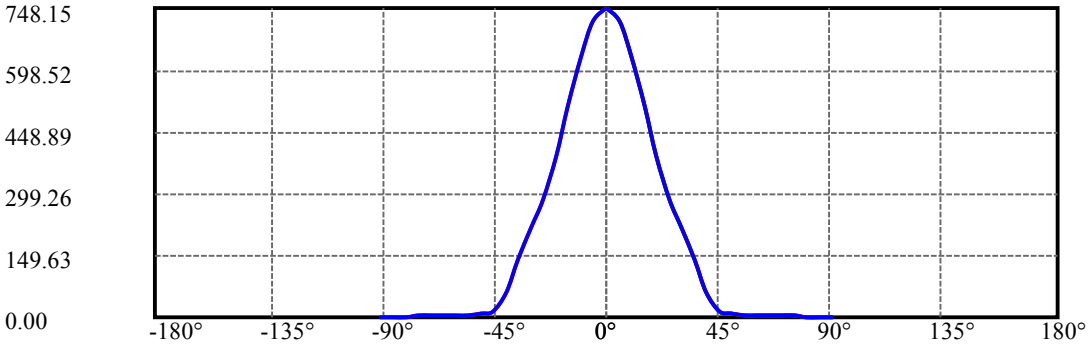
Zone	Lumens	%Lamp	%Fixt
0-30	369.79	71.25%	80.92%
0-40	435.90	83.99%	95.38%
0-60	448.62	86.44%	98.16%
0-90	456.48	87.95%	99.89%
0-120	456.48	87.95%	99.89%
0-180	457.00	88.05%	100.00%
60-90	9.89	1.91%	2.16%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-29.65	365.60	70.44%	80.00%

ZONAL LUMEN SUMMARY

0-10	98.62
10-20	145.84
20-30	125.33
30-40	66.11
40-50	8.59
50-60	4.13
60-70	4.05
70-80	2.69
80-90	1.14
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:

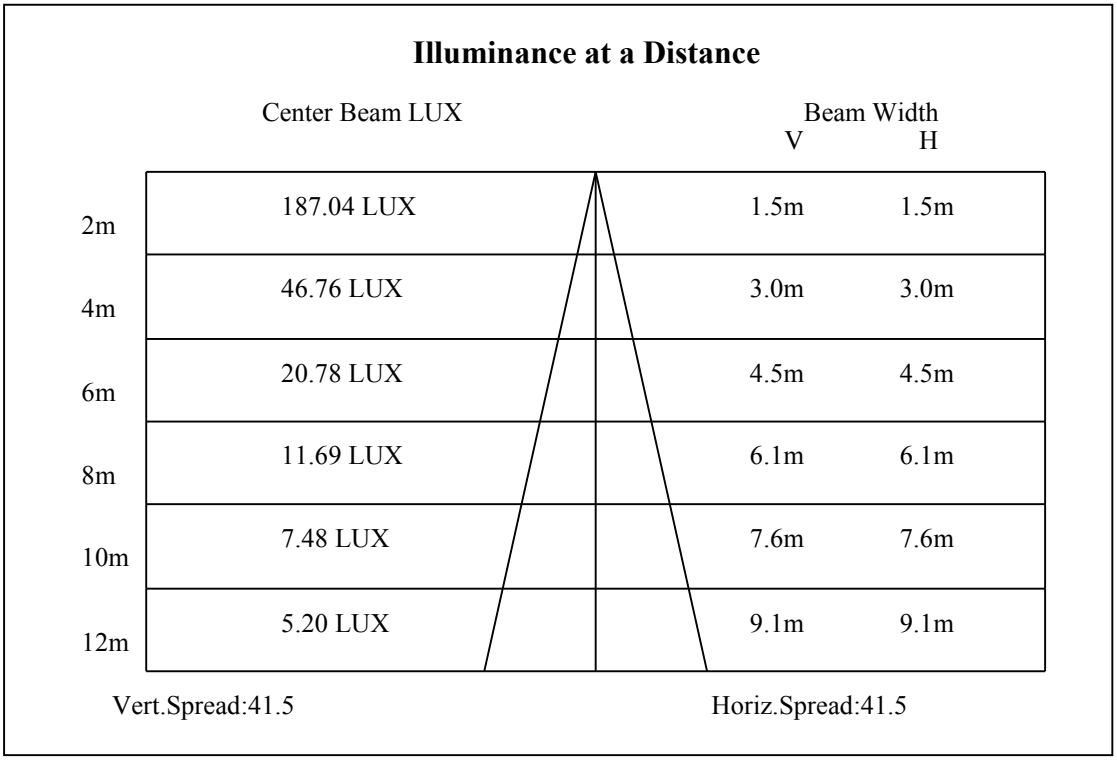
C90/C270:

Field angle(10%Imax):C0/180Left:39.2 Right:39.2
:C90/270Left:39.2 Right:39.2

Beam Angle(50%Imax):C0/180Left:20.8 Right:20.8
:C90/270Left:20.8 Right:20.8

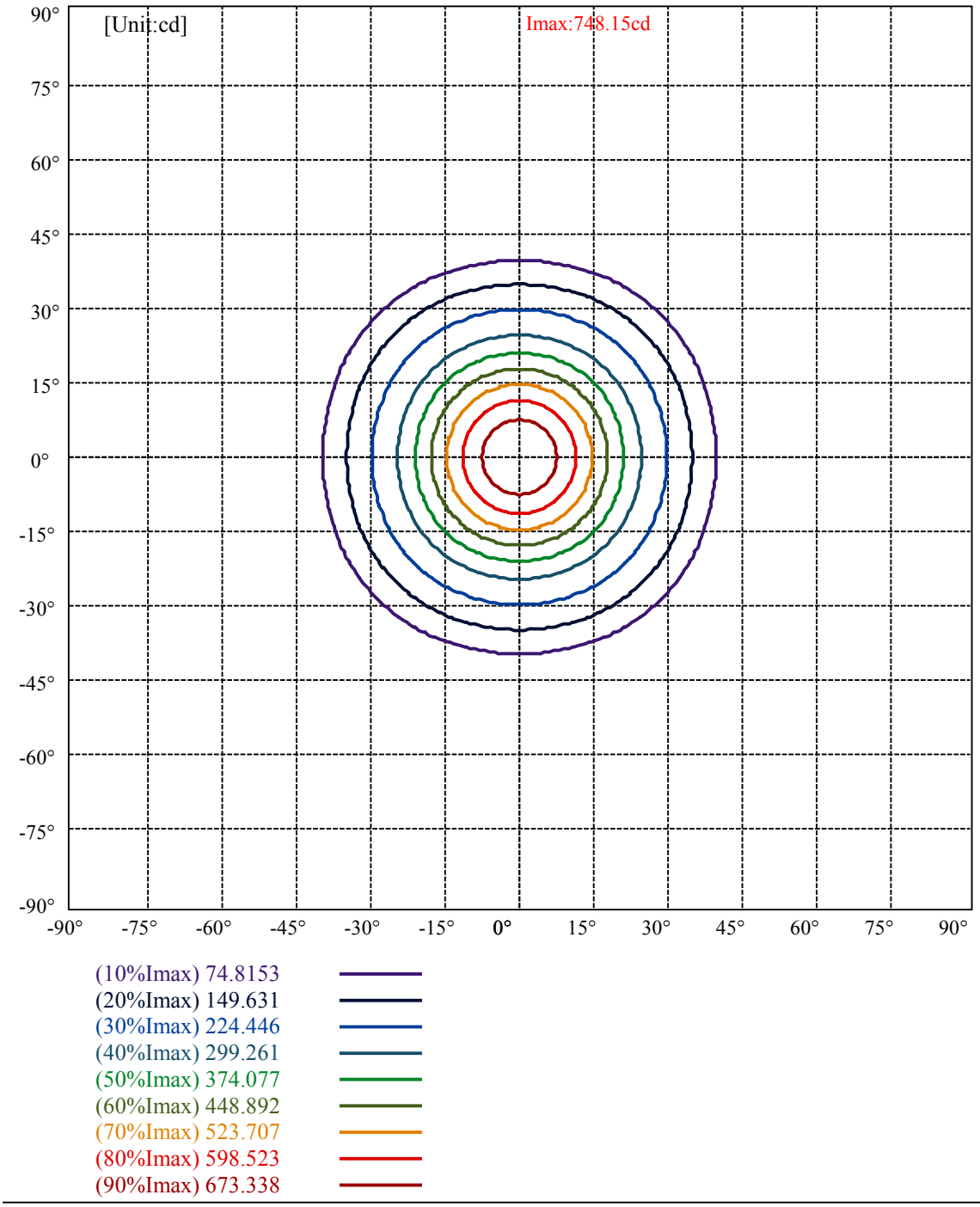
Equipment: GMS1980 Date: 2019/1/8 Operator: NT07
Temperature(°C): 10.0 Humidity(%): 65.0% Distance(m): 7.50

Lux distance Curve



Equipment: GMS1980 Date: 2019/1/8 Operator: NT07
Temperature(°C): 10.0 Humidity(%): 65.0% Distance(m): 7.50

ISO-Intensity(V-H)

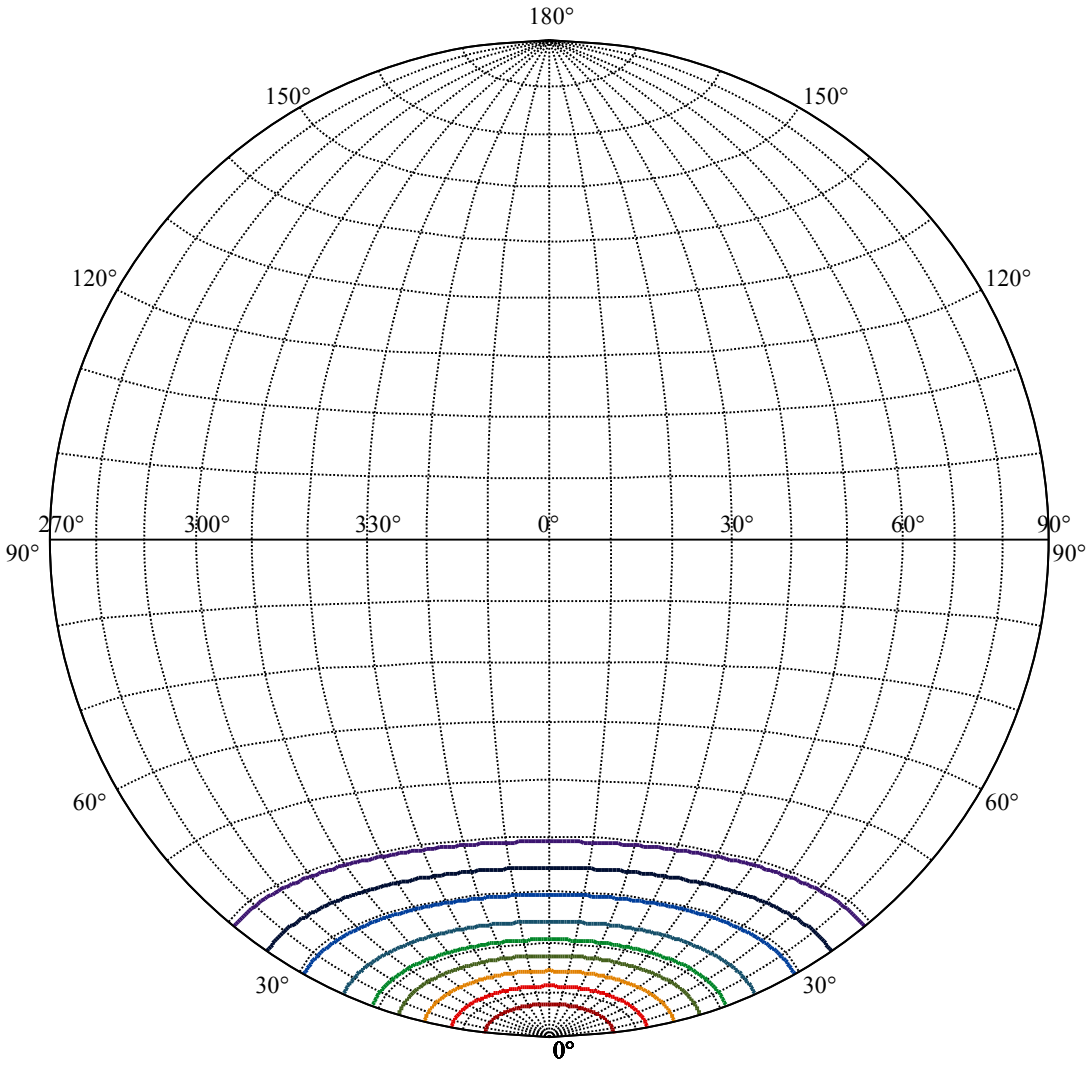


Equipment: GMS1980
Temperature(°C): 10.0

Date: 2019/1/8
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

ISO candela diagram on circular web



House [Unit:cd] Road

Imax:748.15

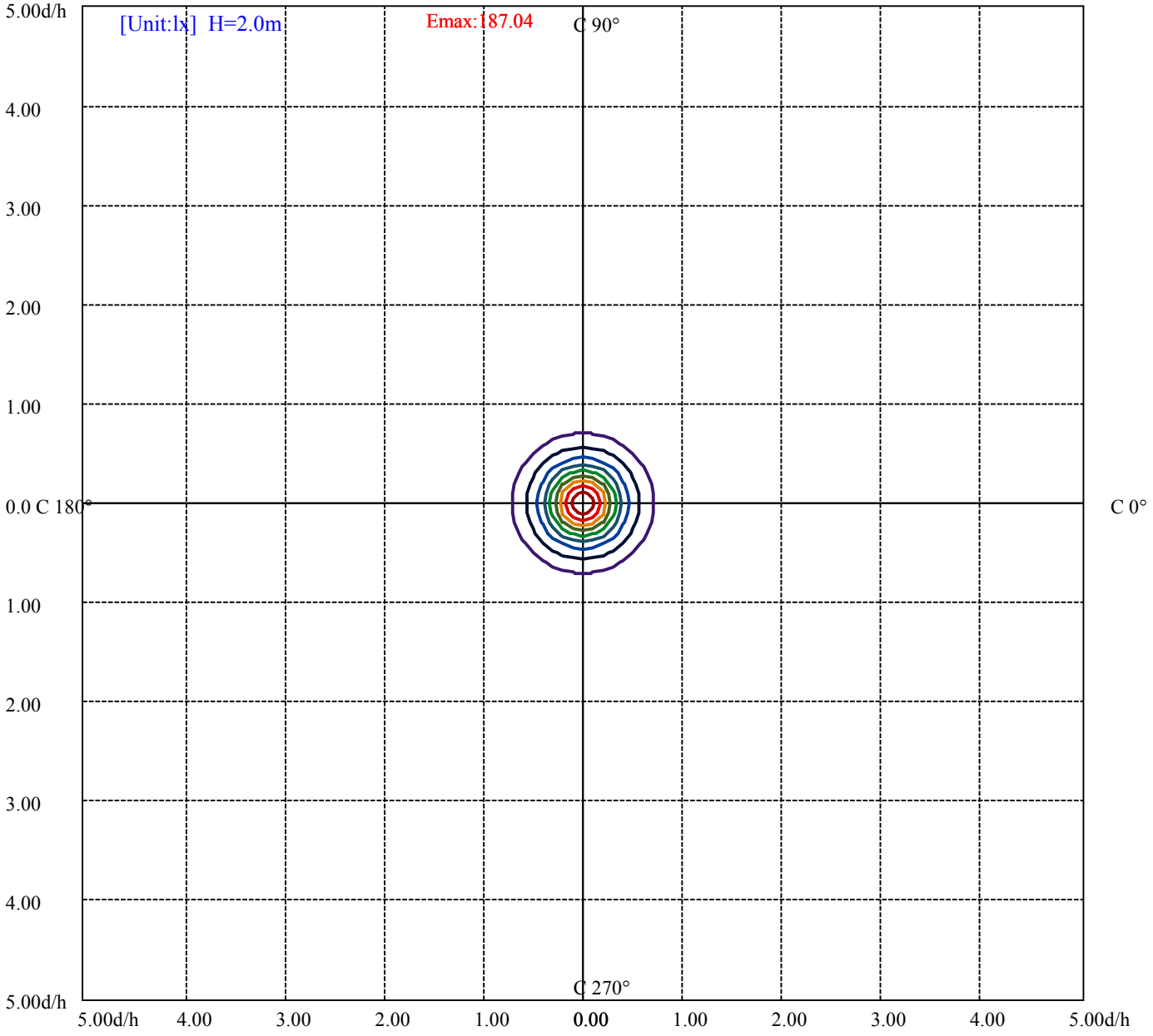
(10%Imax) 74.8153
(20%Imax) 149.631
(30%Imax) 224.446
(40%Imax) 299.261
(50%Imax) 374.077
(60%Imax) 448.892
(70%Imax) 523.707
(80%Imax) 598.523
(90%Imax) 673.338

Equipment: GMS1980
Temperature(°C): 10.0

Date: 2019/1/8
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

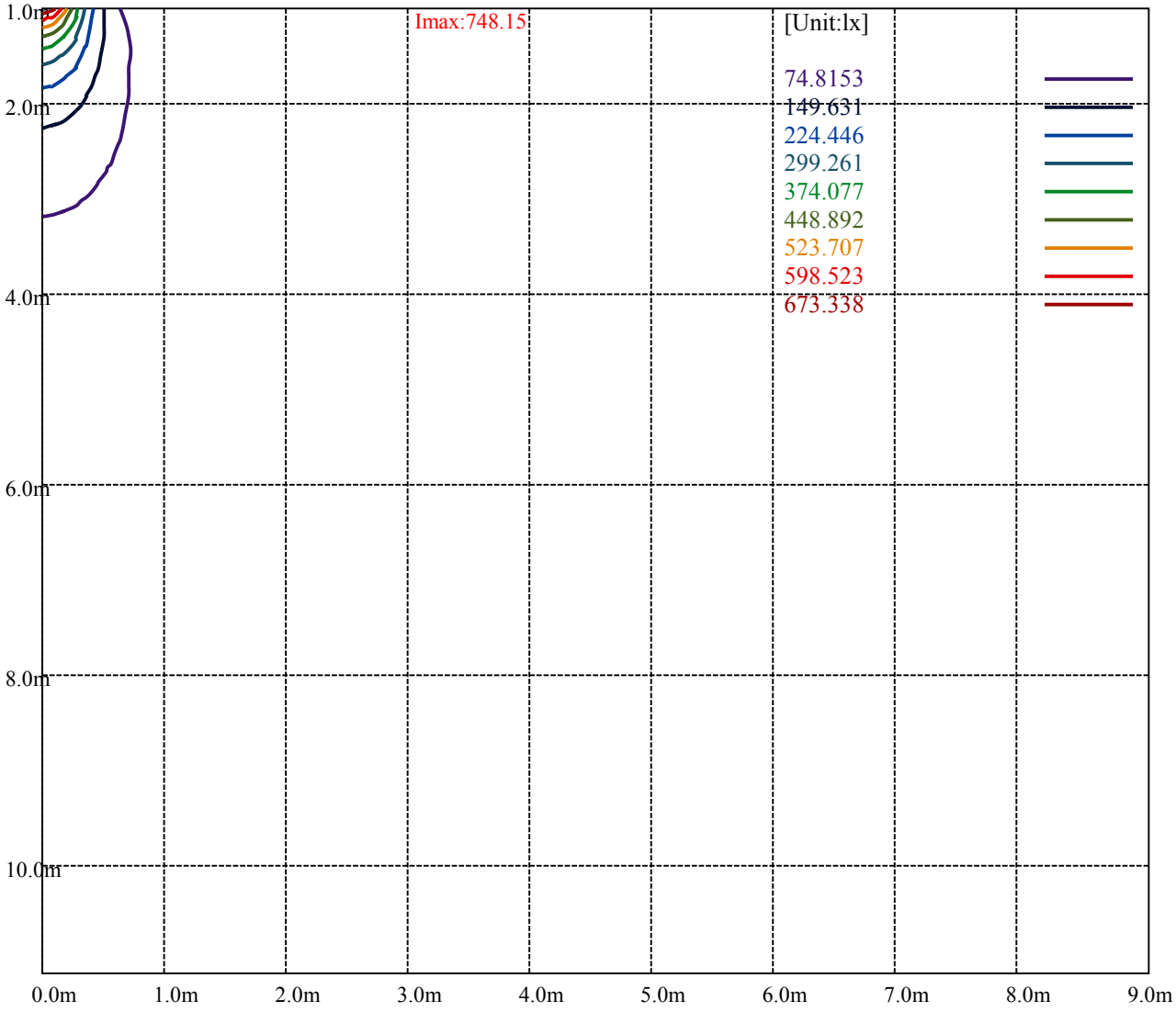
ISO illuminance diagram



(10%Emax) 18.7038
(20%Emax) 37.4075
(30%Emax) 56.1115
(40%Emax) 74.81525
(50%Emax) 93.519
(60%Emax) 112.2227
(70%Emax) 130.9267
(80%Emax) 149.6305
(90%Emax) 168.3342

Equipment: GMS1980
Temperature(°C): 10.0
Date: 2019/1/8
Humidity(%): 65.0%
Operator: NT07
Distance(m): 7.50

Space ISO Lux diagram



Equipment: GMS1980
Temperature(°C): 10.0

Date: 2019/1/8
Humidity(%): 65.0%

Operator: NT07
Distance(m): 7.50

Luminance Limitting Curve(no luminous side)

Luminance Table

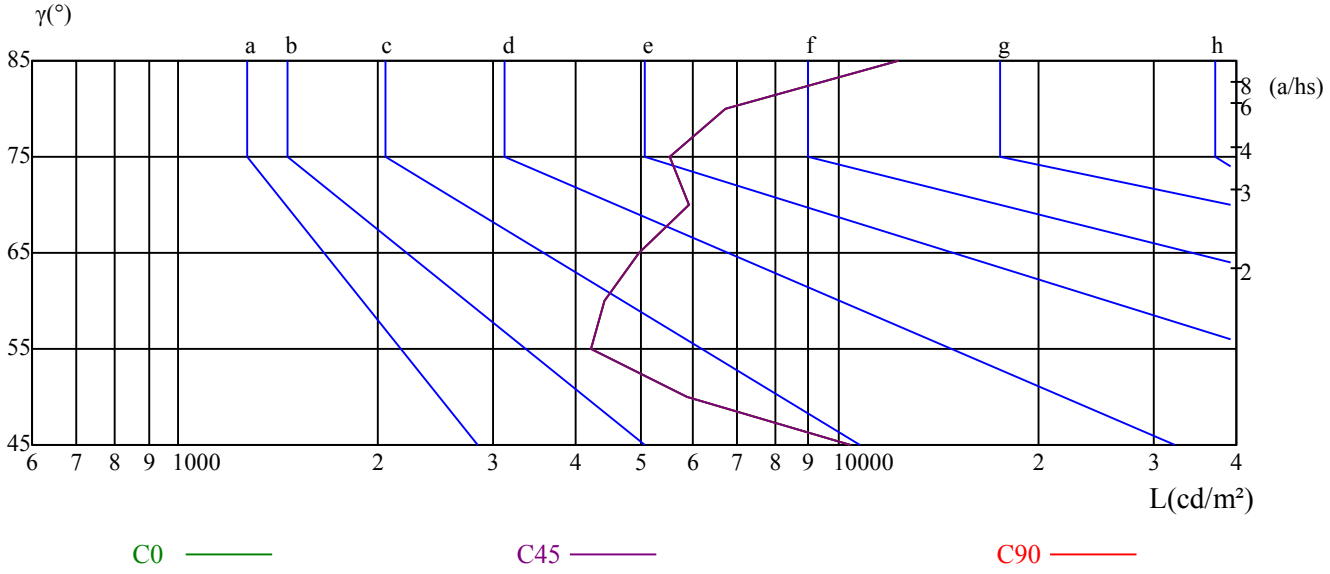
γ	45	50	55	60	65	70	75	80	85
C0	10391	5887	4223	4402	4993	5915	5529	6714	12335
C45	10391	5887	4223	4402	4993	5915	5529	6714	12335
C90	10391	5887	4223	4402	4993	5915	5529	6714	12335

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
4993	4993	4993	5529	5529	5529	12335	12335	12335

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



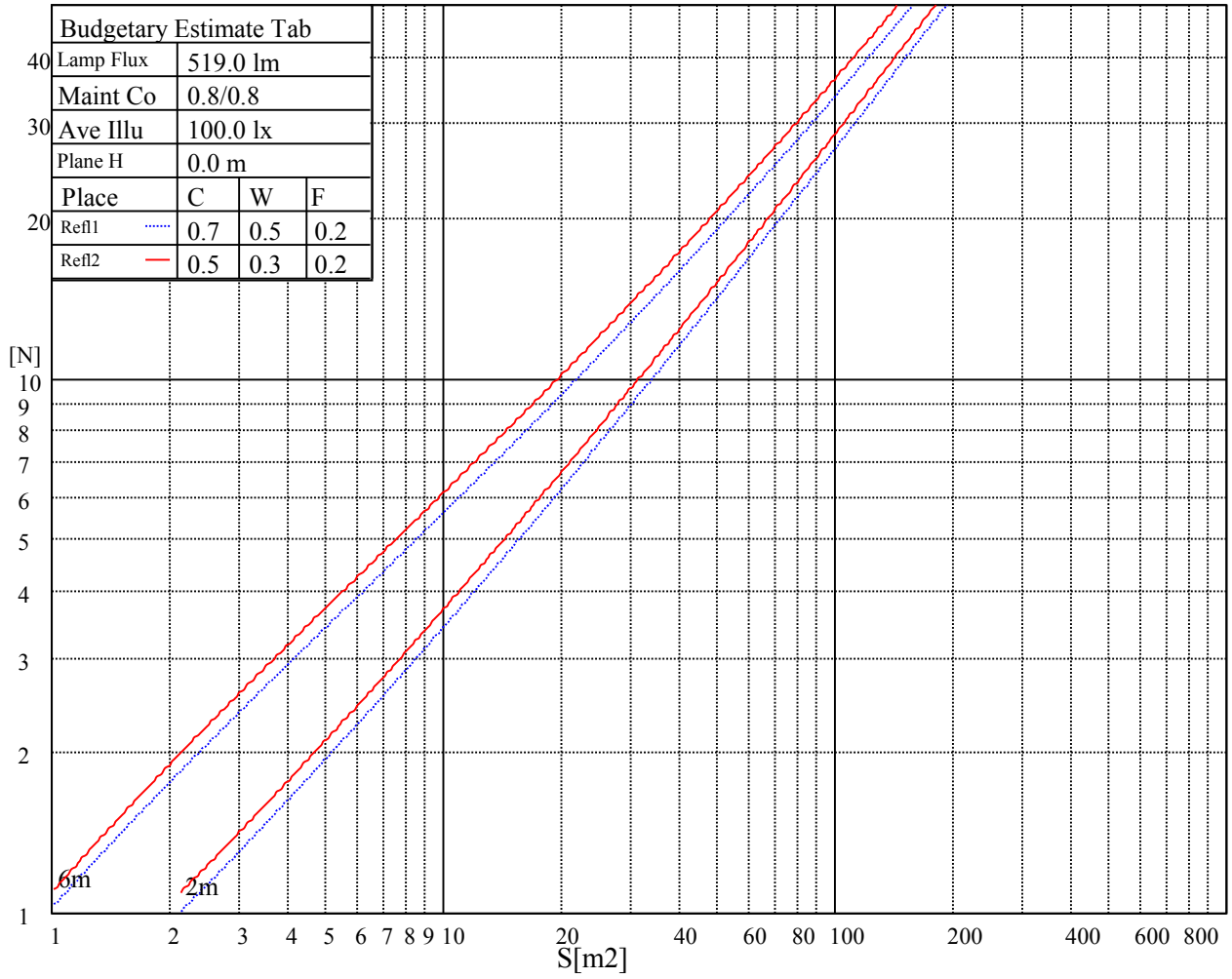
UGR Glare

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	12.27	13.23	12.64	13.54	13.85	9.79	10.74	10.15	11.05	11.37
	3H	15.49	16.34	15.88	16.67	17.04	12.63	13.47	13.01	13.81	14.18
	4H	16.62	17.40	17.03	17.75	18.14	13.65	14.43	14.06	14.79	15.18
	6H	17.49	18.20	17.91	18.58	18.97	14.88	15.59	15.30	15.97	16.37
	8H	17.92	18.59	18.36	18.98	19.39	15.64	16.31	16.07	16.70	17.11
	12H	18.73	19.37	19.17	19.76	20.19	16.98	17.62	17.42	18.01	18.44
4H	2H	12.66	13.44	13.06	13.79	14.18	10.78	11.56	11.19	11.91	12.30
	3H	16.13	16.77	16.55	17.18	17.59	13.85	14.49	14.26	14.90	15.31
	4H	17.37	17.95	17.81	18.37	18.82	14.95	15.53	15.39	15.95	16.40
	6H	18.36	18.85	18.83	19.30	19.77	16.26	16.75	16.73	17.20	17.68
	8H	18.91	19.37	19.39	19.82	20.30	17.11	17.57	17.59	18.02	18.50
	12H	19.79	20.18	20.28	20.67	21.15	18.41	18.80	18.90	19.29	19.77
8H	4H	17.58	18.04	18.06	18.49	18.96	15.55	16.00	16.02	16.46	16.93
	6H	18.80	19.16	19.31	19.66	20.15	17.11	17.48	17.62	17.98	18.47
	8H	19.55	19.87	20.08	20.39	20.89	18.15	18.48	18.69	19.00	19.50
	12H	20.82	21.10	21.34	21.60	22.18	19.70	19.98	20.23	20.48	21.06
12H	4H	17.61	18.00	18.10	18.49	18.97	15.67	16.07	16.17	16.56	17.03
	6H	19.16	19.24	19.45	19.71	20.26	17.60	17.68	17.89	18.15	18.70
	8H	19.78	20.06	20.31	20.56	21.14	18.53	18.80	19.05	19.30	19.88

Variation with the observer position at spacings:		
S = 1.0H	4.4/-5.7	4.4/-5.7
S = 1.5H	6.7/-4.7	6.7/-4.7
S = 2.0H	8.3/-4.1	8.3/-4.1
Standard tables:	BK2	BK2
Uncorrected UGR	1.4	1.4

Equipment: GMS1980 Date: 2019/1/8 Operator: NT07
Temperature(°C): 10.0 Humidity(%): 65.0% Distance(m): 7.50

Budgetary Estimate Table

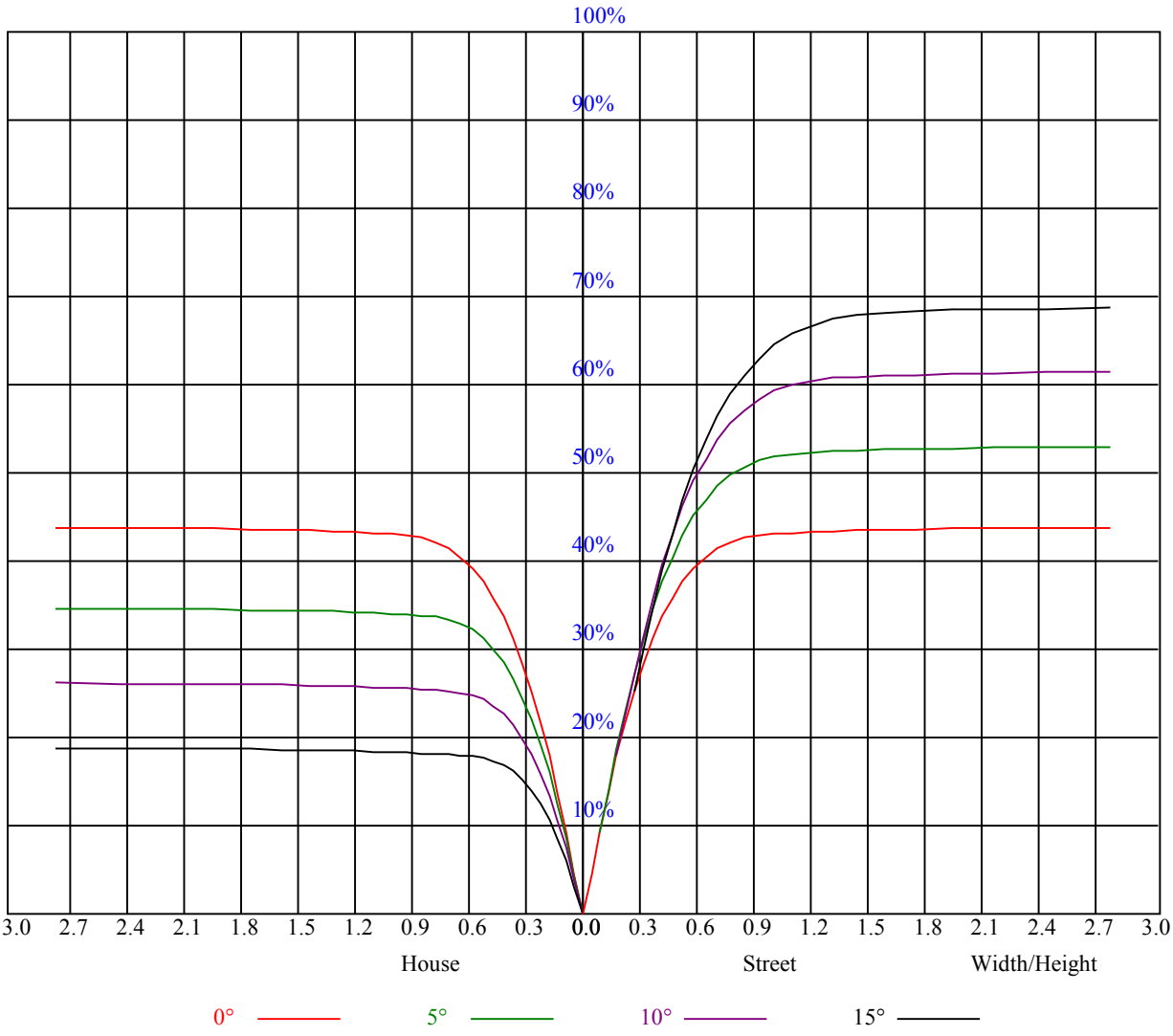


Equipment: GMS1980 Date: 2019/1/8 Operator: NT07
Temperature(°C): 10.0 Humidity(%): 65.0% Distance(m): 7.50

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	1.06	1.06	1.06	1.03	1.03	1.03	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.89
1	0.98	0.95	0.93	0.96	0.94	0.92	0.92	0.90	0.89	0.89	0.88	0.86	0.86	0.85	0.84	0.82
2	0.92	0.88	0.85	0.90	0.87	0.84	0.87	0.85	0.82	0.85	0.82	0.81	0.82	0.80	0.79	0.77
3	0.86	0.82	0.79	0.85	0.81	0.78	0.83	0.79	0.77	0.81	0.78	0.76	0.79	0.76	0.74	0.73
4	0.82	0.77	0.73	0.81	0.76	0.73	0.79	0.75	0.72	0.77	0.74	0.71	0.75	0.73	0.70	0.69
5	0.77	0.72	0.69	0.76	0.72	0.69	0.75	0.71	0.68	0.73	0.70	0.67	0.72	0.69	0.67	0.66
6	0.73	0.69	0.65	0.73	0.68	0.65	0.71	0.67	0.64	0.70	0.67	0.64	0.69	0.66	0.64	0.62
7	0.70	0.65	0.62	0.69	0.65	0.61	0.68	0.64	0.61	0.67	0.64	0.61	0.66	0.63	0.60	0.59
8	0.67	0.62	0.59	0.66	0.62	0.58	0.65	0.61	0.58	0.64	0.61	0.58	0.64	0.60	0.58	0.57
9	0.64	0.59	0.56	0.63	0.59	0.56	0.63	0.58	0.56	0.62	0.58	0.55	0.61	0.58	0.55	0.54
10	0.61	0.56	0.53	0.61	0.56	0.53	0.60	0.56	0.53	0.59	0.56	0.53	0.59	0.55	0.53	0.52

Coefficient Utilization Curve



Equipment: GMS1980	Date: 2019/1/8	Operator: NT07
Temperature(°C): 10.0	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	748.46	725.01	637.99	526.78	411.41	300.99	229.33	154.91	70.14
45.0	748.24	713.53	632.25	505.52	379.18	280.74	215.44	137.87	66.32
90.0	746.61	704.25	599.18	473.01	348.30	243.51	182.03	109.01	39.99
135.0	749.31	715.84	634.28	518.06	395.94	285.24	221.68	147.09	59.01
180.0	748.46	707.29	634.50	515.64	385.88	283.05	211.89	134.16	56.03
225.0	748.24	717.75	629.27	521.83	410.18	294.41	225.00	145.74	60.98
270.0	746.61	725.68	645.75	531.90	412.48	300.21	223.20	152.61	77.63
315.0	749.31	716.46	625.95	503.49	380.19	288.51	225.45	145.18	65.64
360.0	748.46	725.01	637.99	526.78	411.41	300.99	229.33	154.91	70.14

C/γ(°)	45.0	50.0	55.0	60.0	65.0	70.0	75.0	80.0	85.0
0.0	16.26	8.04	3.71	3.04	2.81	2.59	2.25	2.19	2.03
45.0	13.11	5.91	3.77	3.21	3.09	2.93	2.25	2.19	2.08
90.0	11.31	7.20	6.19	6.08	5.51	4.95	3.09	2.19	2.14
135.0	12.60	6.64	4.95	4.39	4.28	4.39	2.87	2.14	2.14
180.0	12.32	5.23	3.71	3.60	3.60	3.32	2.14	2.14	2.08
225.0	14.85	7.93	4.78	4.22	4.22	4.39	2.81	2.19	2.08
270.0	18.68	10.35	6.47	6.19	6.08	5.63	4.50	2.81	2.08
315.0	14.68	7.31	3.94	3.38	3.09	3.15	2.25	2.19	2.03
360.0	16.26	8.04	3.71	3.04	2.81	2.59	2.25	2.19	2.03

C/γ(°)	90.0
0.0	1.97
45.0	1.91
90.0	1.86
135.0	1.80
180.0	1.86
225.0	1.97
270.0	1.86
315.0	1.91
360.0	1.97