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Nata

LumCAT: NA01D020015BW

Luminaire:

Report No:

Voltage(V): 3.98

Test No: GC20191006011

Current(A): 0.299

LampCAT: NICHIA NF2W757

Power (W): 1.1800

Lamp flux(lm): 102.0

PF: 1.19

Number of Lamps: 1

Ballast type: DC

Length(feet)(ft.):0.000

Width(feet)(ft.):0.000

Phm Type: C

Height(feet)(ft.):0.000

Photometric Results

Lumens(lm): 98.67

Efficiency(%): 96.73%

Lumens(lm)/Power(W): 83.62

Central intensity(cd): 695.461

Maximum intensity(cd): 695.461

Angle of maximum intensity: C=0.0 γ =0.0

Beam Angle(50%Imax): [C0/180]Total=15.4

[C90/270]Total=15.4

Field angle(10%Imax): [C0/180]Total=35.1

[C90/270]Total=35.1

Maximum s/h(1/2): C0_180=0.26 C90_270=0.26

Maximum s/h(1/4): C0_180=0.29 C90_270=0.29

Up flux rate of lamp(%): 0.00%

Down flux rate of lamp(%): 96.89%

Up flux rate of LUM(%): - -

Down flux rate of LUM(%): 100.00%

CIE Type : Direct lighting

Output flux ratio in π solid angle : 96.380%

Equipment: 123
Temperature(°C): 345

Date: 2019/10/6
Humidity(%): 456%

Operator: 234

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	695.461	0.166	0.166	.163%	.169%
1.0	685.399	1.312	1.478	1.286%	1.498%
2.0	658.118	2.519	3.997	2.469%	4.051%
3.0	614.215	3.525	7.522	3.456%	7.623%
4.0	562.205	4.301	11.823	4.216%	11.982%
5.0	502.362	4.801	16.624	4.707%	16.848%
6.0	444.537	5.096	21.719	4.996%	22.013%
7.0	384.427	5.138	26.857	5.037%	27.219%
8.0	332.016	5.067	31.924	4.968%	32.355%
9.0	279.668	4.798	36.722	4.704%	37.217%
10.0	236.567	4.505	41.227	4.416%	41.783%
11.0	201.987	4.226	45.453	4.144%	46.066%
12.0	170.958	3.898	49.351	3.821%	50.017%
13.0	143.860	3.549	52.9	3.479%	53.613%
14.0	121.620	3.226	56.126	3.163%	56.883%
15.0	103.479	2.937	59.063	2.879%	59.860%
16.0	87.694	2.651	61.714	2.599%	62.546%
17.0	75.959	2.435	64.149	2.388%	65.015%
18.0	64.589	2.189	66.338	2.146%	67.233%
19.0	56.377	2.013	68.351	1.973%	69.273%
20.0	49.029	1.839	70.19	1.803%	71.137%
21.0	42.764	1.681	71.87	1.648%	72.840%
22.0	37.856	1.555	73.425	1.525%	74.416%
23.0	33.645	1.442	74.867	1.413%	75.877%
24.0	30.003	1.338	76.205	1.312%	77.233%
25.0	26.902	1.247	77.452	1.222%	78.497%
26.0	24.413	1.174	78.625	1.151%	79.686%
27.0	22.064	1.098	79.724	1.077%	80.799%
28.0	20.215	1.041	80.765	1.020%	81.854%
29.0	18.527	0.985	81.75	.966%	82.852%
30.0	17.072	0.936	82.686	.918%	83.801%
31.0	15.736	0.889	83.574	.871%	84.702%
32.0	14.548	0.845	84.42	.829%	85.559%
33.0	13.451	0.803	85.223	.788%	86.373%
34.0	12.396	0.760	85.983	.745%	87.143%
35.0	11.510	0.724	86.707	.710%	87.877%
36.0	10.561	0.681	87.388	.667%	88.567%
37.0	9.717	0.641	88.029	.629%	89.217%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	8.916	0.602	88.631	.590%	89.827%
39.0	8.135	0.561	89.193	.550%	90.396%
40.0	7.390	0.521	89.714	.511%	90.924%
41.0	6.764	0.487	90.2	.477%	91.417%
42.0	6.068	0.445	90.646	.437%	91.868%
43.0	5.428	0.406	91.052	.398%	92.280%
44.0	4.950	0.377	91.429	.370%	92.662%
45.0	4.465	0.346	91.775	.339%	93.013%
46.0	4.120	0.325	92.1	.319%	93.342%
47.0	3.776	0.303	92.403	.297%	93.649%
48.0	3.495	0.285	92.688	.279%	93.938%
49.0	3.242	0.268	92.956	.263%	94.210%
50.0	3.038	0.255	93.211	.250%	94.468%
51.0	2.848	0.243	93.454	.238%	94.714%
52.0	2.672	0.231	93.685	.226%	94.948%
53.0	2.524	0.221	93.906	.217%	95.172%
54.0	2.384	0.211	94.117	.207%	95.387%
55.0	2.292	0.206	94.323	.202%	95.595%
56.0	2.194	0.199	94.522	.196%	95.798%
57.0	2.088	0.192	94.715	.188%	95.992%
58.0	1.997	0.186	94.9	.182%	96.181%
59.0	1.920	0.180	95.081	.177%	96.363%
60.0	1.828	0.174	95.254	.170%	96.539%
61.0	1.772	0.170	95.424	.167%	96.712%
62.0	1.709	0.165	95.59	.162%	96.879%
63.0	1.660	0.162	95.752	.159%	97.044%
64.0	1.589	0.157	95.908	.154%	97.202%
65.0	1.533	0.152	96.061	.149%	97.357%
66.0	1.470	0.147	96.208	.144%	97.506%
67.0	1.406	0.142	96.35	.139%	97.650%
68.0	1.357	0.138	96.488	.135%	97.790%
69.0	1.308	0.134	96.622	.131%	97.925%
70.0	1.280	0.132	96.754	.129%	98.059%
71.0	1.245	0.129	96.883	.127%	98.190%
72.0	1.196	0.125	97.008	.122%	98.316%
73.0	1.160	0.122	97.129	.119%	98.440%
74.0	1.118	0.118	97.247	.116%	98.559%
75.0	1.076	0.114	97.361	.112%	98.675%

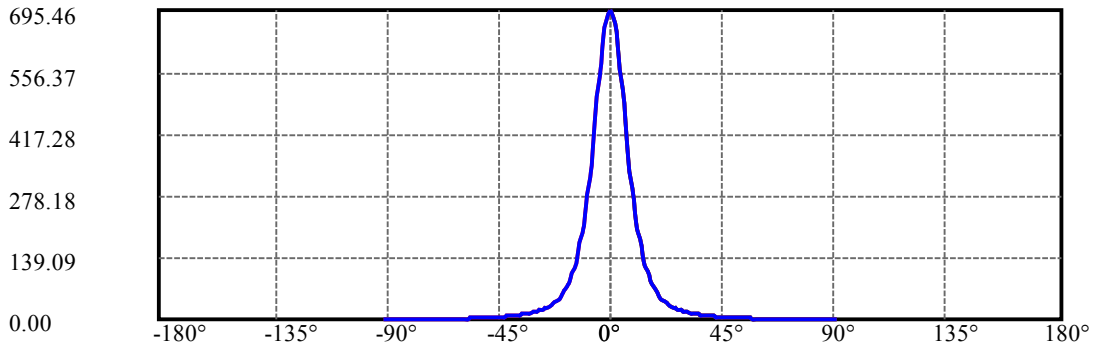
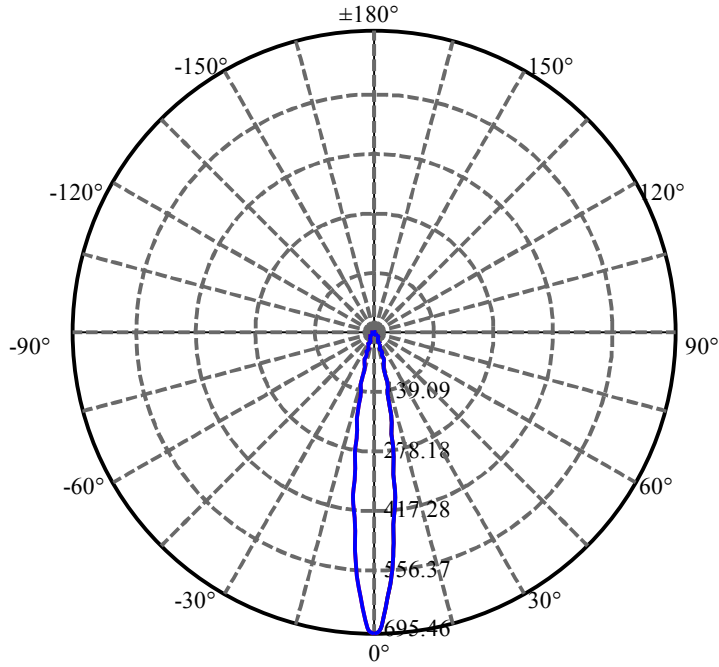
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	1.055	0.112	97.473	.110%	98.788%
77.0	1.027	0.110	97.583	.108%	98.899%
78.0	1.013	0.109	97.692	.107%	99.010%
79.0	0.992	0.107	97.798	.105%	99.118%
80.0	0.985	0.106	97.905	.104%	99.226%
81.0	0.970	0.105	98.01	.103%	99.332%
82.0	0.942	0.102	98.112	.100%	99.436%
83.0	0.928	0.101	98.213	.099%	99.538%
84.0	0.900	0.098	98.311	.096%	99.638%
85.0	0.844	0.092	98.403	.090%	99.731%
86.0	0.724	0.079	98.483	.078%	99.811%
87.0	0.598	0.065	98.548	.064%	99.878%
88.0	0.492	0.054	98.602	.053%	99.932%
89.0	0.415	0.046	98.648	.045%	99.978%
90.0	0.387	0.021	98.669	.021%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	82.69	81.06%	83.80%
0-40	89.71	87.95%	90.92%
0-60	95.25	93.39%	96.54%
0-90	98.65	96.71%	99.98%
0-120	98.65	96.71%	99.98%
0-180	98.67	96.73%	100.00%
60-90	3.57	3.50%	3.62%
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%
0-26.28	78.94	77.39%	80.00%

ZONAL LUMEN SUMMARY

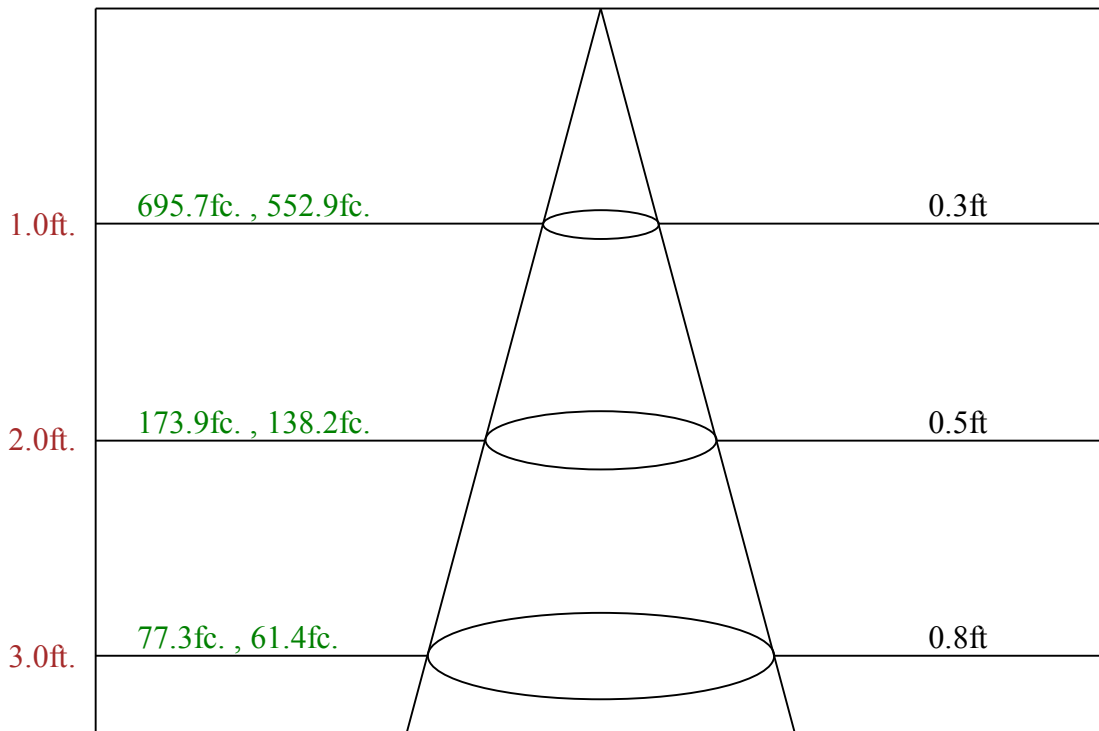
0-10	41.23
10-20	28.96
20-30	12.50
30-40	7.03
40-50	3.50
50-60	2.04
60-70	1.50
70-80	1.15
80-90	0.74
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00



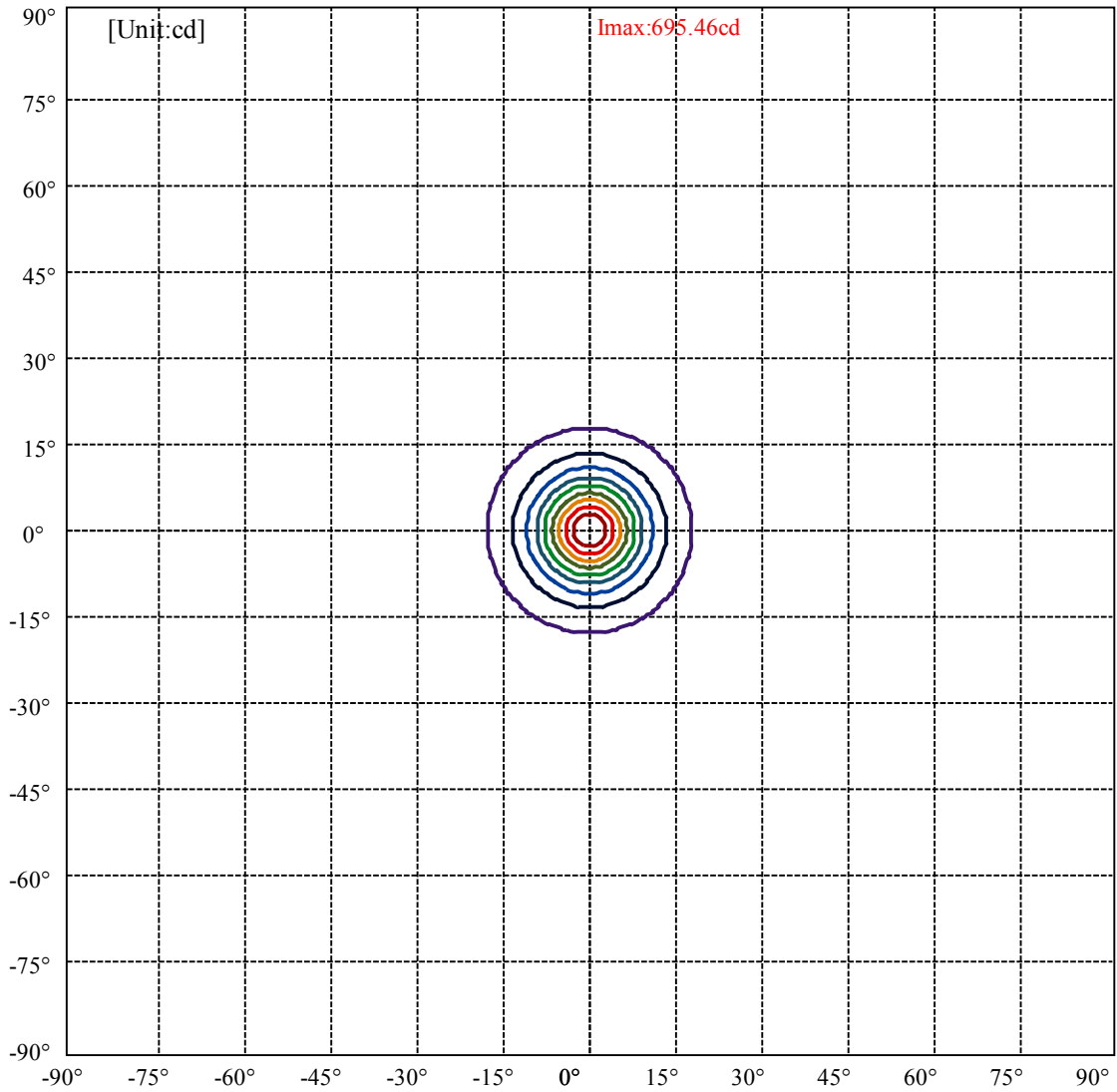
C0(Max): —————
C0/C180: —————
C90/C270: —————

Field angle(10%Imax):C0/180Left:17.6 Right:17.6
:C90/270Left:17.6 Right:17.6

Beam Angle(50%Imax):C0/180Left:7.7 Right:7.7
:C90/270Left:7.7 Right:7.7



Max , Ave Beam angle of C0 plane 15.59

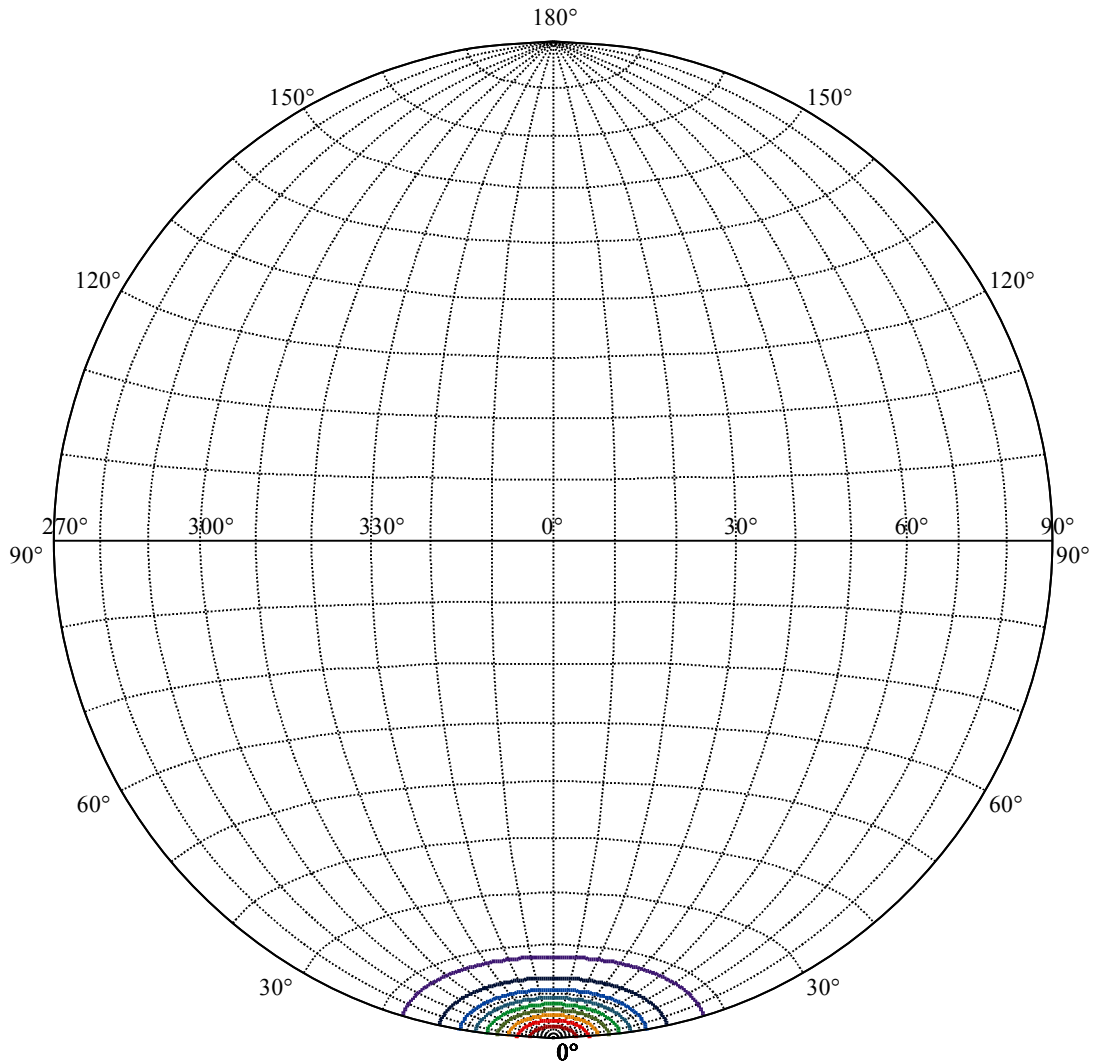


(10%Imax) 69.5461	—
(20%Imax) 139.092	—
(30%Imax) 208.638	—
(40%Imax) 278.184	—
(50%Imax) 347.73	—
(60%Imax) 417.277	—
(70%Imax) 486.823	—
(80%Imax) 556.369	—
(90%Imax) 625.915	—

Equipment: 123
Temperature(°C): 345

Date: 2019/10/6
Humidity(%): 456%

Operator: 234



House

[Unit:cd]

Road

Imax:695.46

(10%Imax) 69.5461

(20%Imax) 139.092

(30%Imax) 208.638

(40%Imax) 278.184

(50%Imax) 347.73

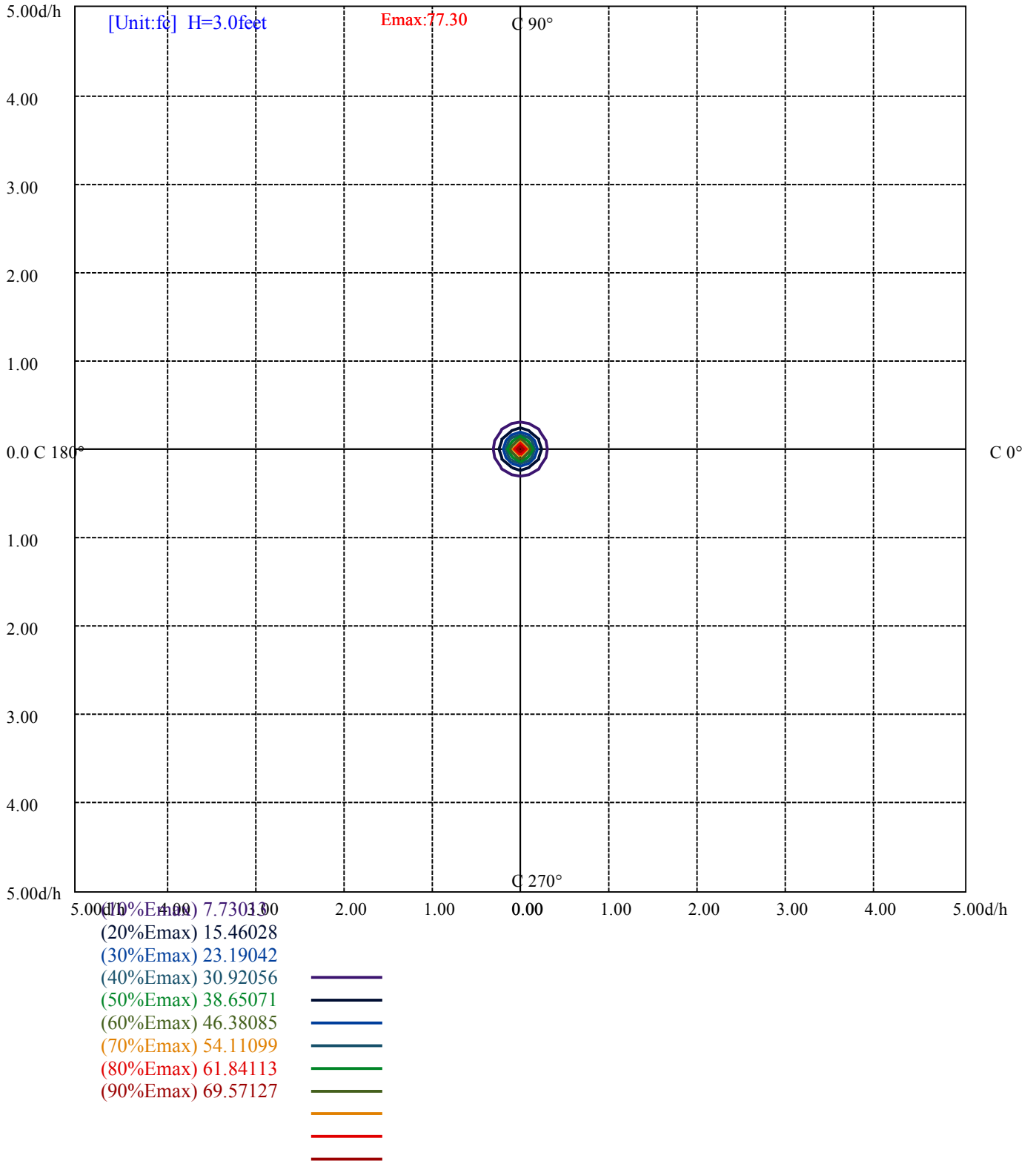
(60%Imax) 417.277

(70%Imax) 486.823

(80%Imax) 556.369

(90%Imax) 625.915

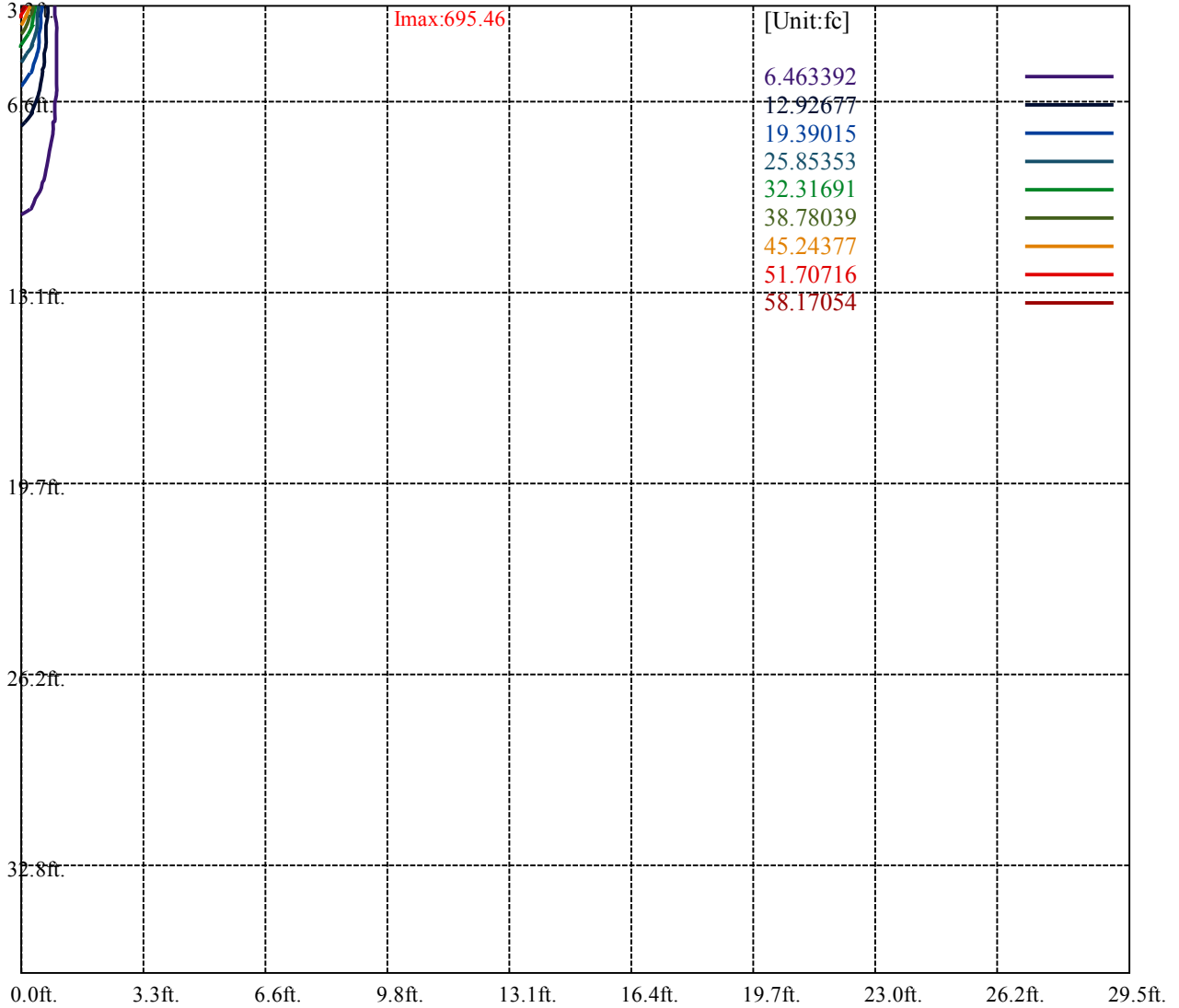




Equipment: 123
Temperature(°C): 345

Date: 2019/10/6
Humidity(%): 456%

Operator: 234



Equipment: 123
Temperature(°C): 345

Date: 2019/10/6
Humidity(%): 456%

Operator: 234

Luminance Table

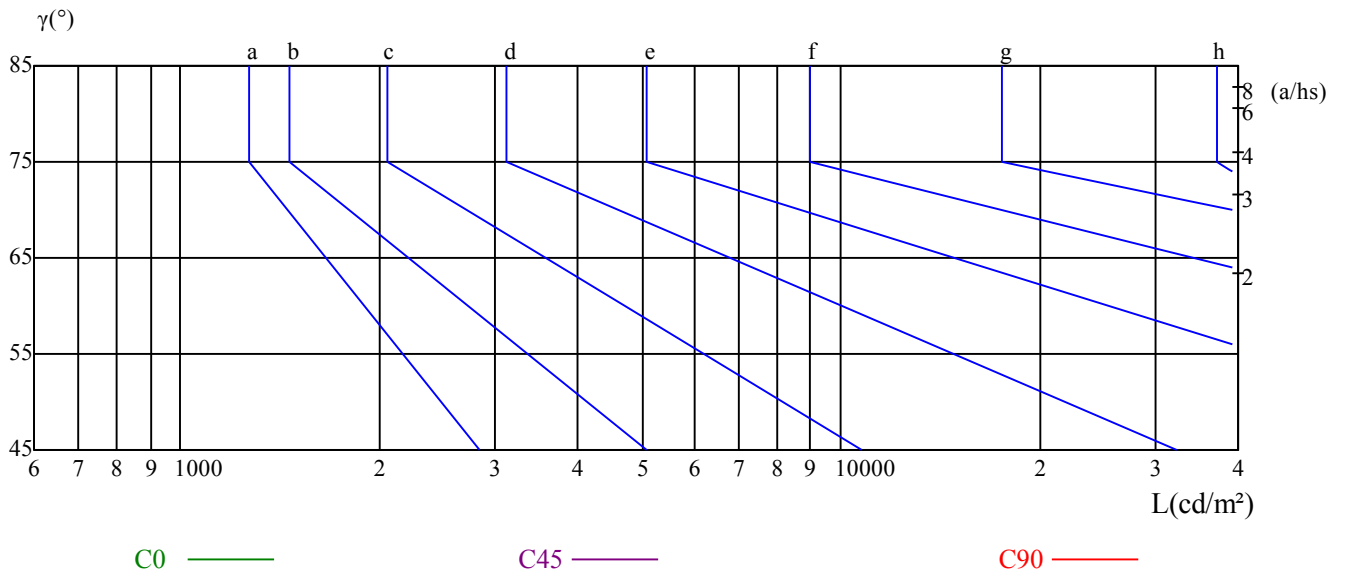
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

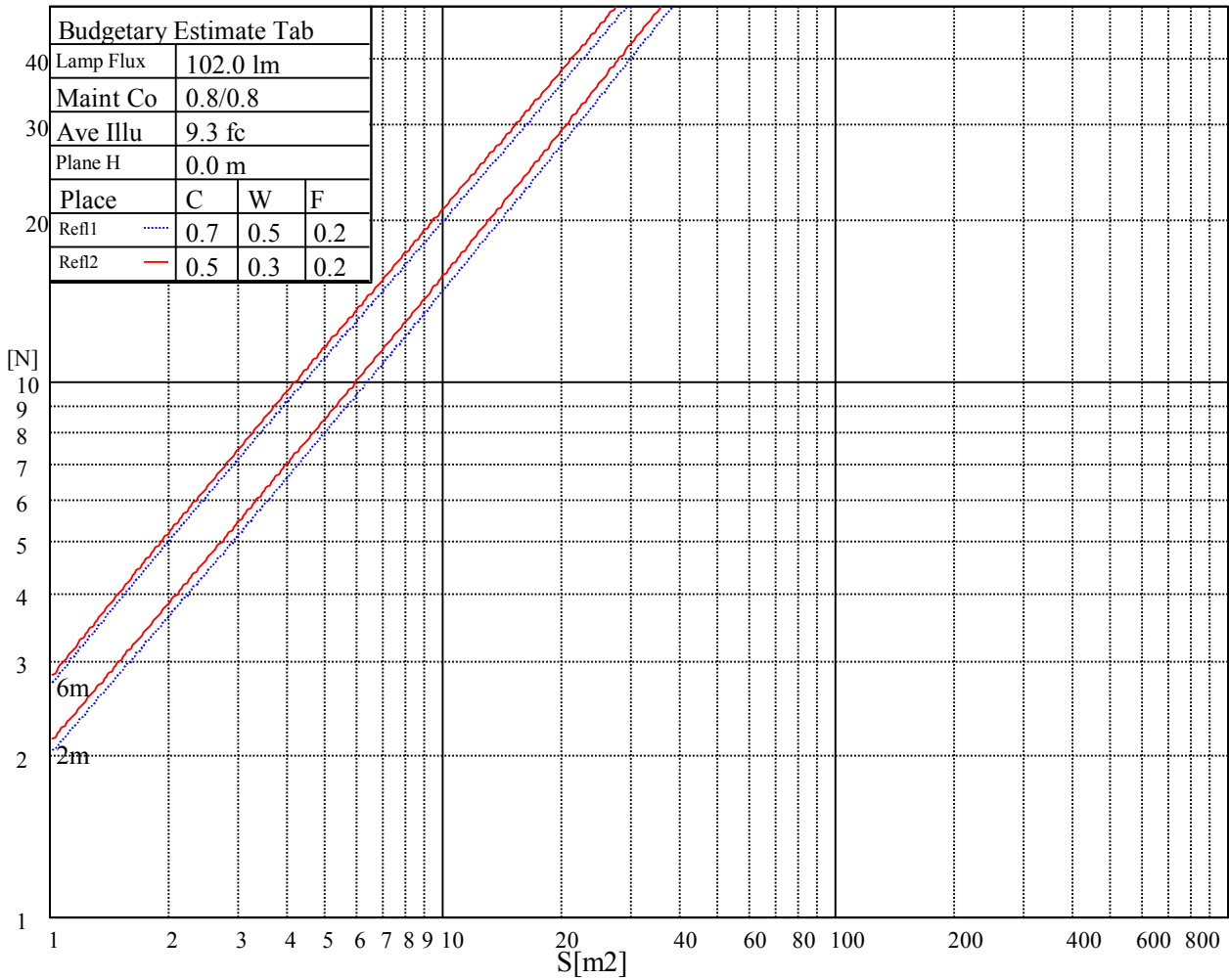
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

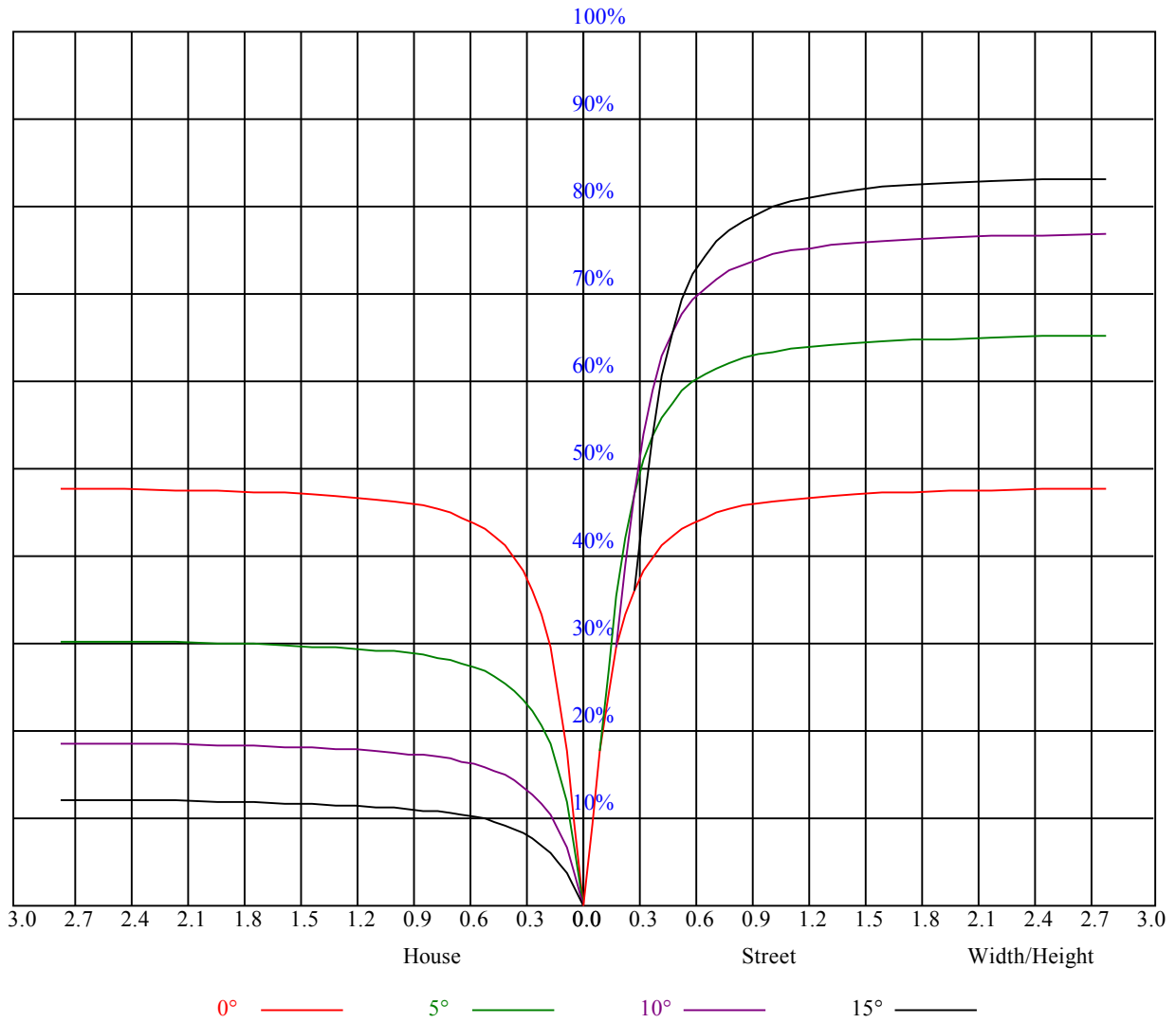
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

Luminance Limiting Curve





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	COEFFICIENTS OF UTILIZATION RHOFC=20 CU															
0	1.15	1.15	1.15	1.13	1.13	1.13	1.08	1.08	1.08	1.03	1.03	1.03	0.99	0.99	0.99	0.97
1	1.08	1.06	1.04	1.06	1.04	1.02	1.02	1.00	0.99	0.98	0.97	0.96	0.95	0.94	0.93	0.92
2	1.02	0.99	0.96	1.00	0.97	0.95	0.97	0.95	0.93	0.95	0.93	0.91	0.92	0.90	0.89	0.87
3	0.97	0.93	0.90	0.96	0.92	0.89	0.93	0.90	0.88	0.91	0.89	0.86	0.89	0.87	0.85	0.84
4	0.93	0.88	0.85	0.92	0.88	0.85	0.90	0.86	0.84	0.88	0.85	0.83	0.86	0.84	0.82	0.81
5	0.89	0.85	0.81	0.88	0.84	0.81	0.87	0.83	0.80	0.85	0.82	0.80	0.84	0.81	0.79	0.78
6	0.86	0.81	0.78	0.85	0.81	0.78	0.84	0.80	0.77	0.83	0.79	0.77	0.81	0.79	0.76	0.75
7	0.83	0.78	0.75	0.82	0.78	0.75	0.81	0.78	0.75	0.80	0.77	0.74	0.79	0.76	0.74	0.73
8	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
9	0.78	0.74	0.71	0.78	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.69
10	0.76	0.72	0.69	0.76	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.69	0.74	0.71	0.68	0.67



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	730.63	739.97	721.63	674.55	615.83	541.41	465.81	402.81	346.22
45.0	638.04	676.86	704.42	706.16	683.38	636.86	573.86	511.82	454.05
90.0	690.13	696.49	676.63	642.43	594.23	524.64	472.39	404.33	335.42
135.0	723.04	711.73	678.88	632.76	573.36	510.81	454.28	392.46	340.54
180.0	730.63	696.04	650.70	591.36	530.38	477.39	425.53	363.15	316.80
225.0	638.04	582.58	532.69	476.38	421.20	376.37	331.54	280.46	243.45
270.0	690.13	665.61	616.28	566.94	515.53	450.06	400.84	352.97	303.58
315.0	723.04	713.93	683.72	623.14	563.74	501.36	432.06	367.43	316.07
360.0	730.63	739.97	721.63	674.55	615.83	541.41	465.81	402.81	346.22
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	284.29	242.44	206.94	173.48	145.58	124.76	105.36	89.55	78.02
45.0	369.73	317.59	275.85	226.63	190.01	165.94	137.31	116.33	102.77
90.0	292.50	244.13	204.08	174.49	149.85	121.33	106.43	91.97	79.65
135.0	288.06	243.17	208.29	177.92	146.14	124.71	106.59	88.03	75.77
180.0	274.11	227.25	194.91	167.40	140.96	118.58	101.76	85.61	73.63
225.0	210.15	174.32	150.02	128.98	108.28	91.01	78.08	65.98	57.15
270.0	258.24	221.96	186.58	159.86	134.21	112.16	95.91	80.78	68.40
315.0	260.27	221.68	189.23	158.91	135.84	114.47	96.41	83.31	72.28
360.0	284.29	242.44	206.94	173.48	145.58	124.76	105.36	89.55	78.02
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	67.16	59.12	51.69	46.18	41.01	36.73	32.96	30.09	27.62
45.0	86.34	75.54	66.21	56.76	50.46	45.23	39.71	35.78	32.63
90.0	67.05	58.67	50.79	44.33	39.54	34.99	31.67	28.41	25.71
135.0	65.48	55.91	48.09	42.24	36.84	32.23	28.97	25.82	23.46
180.0	62.33	53.16	46.35	39.99	34.71	30.88	27.56	24.13	21.71
225.0	49.05	42.98	37.18	32.29	28.63	25.20	22.61	19.86	18.00
270.0	59.23	51.81	44.10	38.98	34.65	30.54	27.00	24.19	21.49
315.0	60.08	53.83	47.81	41.34	37.01	33.36	29.53	26.94	24.69
360.0	67.16	59.12	51.69	46.18	41.01	36.73	32.96	30.09	27.62
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	24.92	23.06	21.43	19.80	18.34	17.21	15.92	14.68	13.73
45.0	29.14	26.61	24.58	22.67	20.87	19.41	17.89	16.48	15.30
90.0	23.63	21.77	19.80	18.39	17.21	15.75	14.68	13.73	12.71
135.0	21.15	19.18	17.61	16.26	14.91	13.84	12.83	11.70	10.97
180.0	19.74	17.61	16.20	14.79	13.28	12.26	11.19	10.13	9.39
225.0	16.43	15.02	13.44	12.32	11.25	10.07	9.23	8.49	7.71
270.0	19.29	17.66	16.03	14.79	13.44	12.43	11.64	10.69	9.84
315.0	22.22	20.81	19.13	17.55	16.59	15.41	14.23	13.28	12.43
360.0	24.92	23.06	21.43	19.80	18.34	17.21	15.92	14.68	13.73
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	12.60	11.64	10.69	9.79	8.89	8.10	7.03	6.36	5.74
45.0	14.06	12.99	11.93	10.80	9.90	9.11	8.10	7.37	6.69
90.0	11.76	10.91	10.07	9.06	8.16	7.43	6.64	5.85	5.23
135.0	10.18	9.28	8.49	7.82	6.98	6.41	5.74	5.06	4.61
180.0	8.49	7.59	7.14	6.53	5.91	5.51	5.12	4.50	4.16
225.0	7.03	6.47	5.91	5.40	5.06	4.61	4.33	3.99	3.71
270.0	9.17	8.44	7.59	6.98	6.41	5.85	5.18	4.61	4.22
315.0	11.19	10.41	9.51	8.72	7.82	7.09	6.41	5.68	5.23
360.0	12.60	11.64	10.69	9.79	8.89	8.10	7.03	6.36	5.74

Equipment: 123
Temperature(°C): 345

Date: 2019/10/6
Humidity(%): 456%

Operator: 234

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	5.12	4.73	4.33	3.94	3.60	3.32	3.15	2.93	2.76
45.0	5.91	5.40	4.95	4.44	3.99	3.71	3.38	3.15	2.93
90.0	4.67	4.28	3.88	3.54	3.32	3.04	2.81	2.70	2.53
135.0	4.16	3.83	3.49	3.26	3.04	2.87	2.70	2.48	2.36
180.0	3.88	3.60	3.32	3.09	2.93	2.76	2.59	2.48	2.31
225.0	3.43	3.21	2.98	2.87	2.70	2.59	2.48	2.36	2.25
270.0	3.88	3.60	3.32	3.15	2.93	2.81	2.70	2.53	2.42
315.0	4.67	4.33	3.94	3.66	3.43	3.21	2.98	2.76	2.64
360.0	5.12	4.73	4.33	3.94	3.60	3.32	3.15	2.93	2.76
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0
0.0	2.53	2.42	2.36	2.19	2.14	2.03	1.91	1.86	1.80
45.0	2.70	2.59	2.42	2.31	2.19	2.08	1.91	1.86	1.80
90.0	2.36	2.31	2.14	2.03	1.91	1.86	1.80	1.74	1.69
135.0	2.31	2.19	2.08	2.03	1.91	1.86	1.80	1.74	1.69
180.0	2.25	2.14	2.08	1.97	1.91	1.86	1.80	1.74	1.63
225.0	2.14	2.08	2.03	1.97	1.86	1.80	1.69	1.63	1.63
270.0	2.31	2.25	2.14	2.03	1.97	1.91	1.80	1.80	1.69
315.0	2.48	2.36	2.31	2.19	2.08	1.97	1.91	1.80	1.74
360.0	2.53	2.42	2.36	2.19	2.14	2.03	1.91	1.86	1.80
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0
0.0	1.69	1.63	1.58	1.52	1.41	1.35	1.35	1.29	1.24
45.0	1.74	1.69	1.63	1.52	1.46	1.41	1.41	1.35	1.29
90.0	1.63	1.52	1.46	1.41	1.35	1.24	1.18	1.18	1.13
135.0	1.63	1.58	1.52	1.46	1.35	1.35	1.29	1.29	1.29
180.0	1.63	1.58	1.52	1.46	1.41	1.41	1.29	1.29	1.29
225.0	1.58	1.52	1.46	1.41	1.35	1.35	1.29	1.24	1.18
270.0	1.69	1.58	1.52	1.46	1.46	1.35	1.29	1.29	1.24
315.0	1.69	1.63	1.58	1.52	1.46	1.41	1.35	1.29	1.29
360.0	1.69	1.63	1.58	1.52	1.41	1.35	1.35	1.29	1.24
C/γ(°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0
0.0	1.24	1.18	1.13	1.13	1.07	1.07	1.01	1.01	1.01
45.0	1.24	1.24	1.18	1.13	1.13	1.07	1.07	1.01	1.01
90.0	1.07	1.07	1.07	1.01	1.01	0.96	0.96	0.96	0.96
135.0	1.13	1.13	1.07	1.07	1.01	0.96	0.96	0.90	0.90
180.0	1.29	1.18	1.13	1.07	1.07	1.07	1.01	1.01	1.01
225.0	1.18	1.13	1.13	1.07	1.07	1.01	1.01	1.01	1.01
270.0	1.24	1.18	1.13	1.07	1.01	1.01	1.01	1.01	1.01
315.0	1.18	1.18	1.13	1.07	1.07	1.07	1.07	1.01	0.96
360.0	1.24	1.18	1.13	1.13	1.07	1.07	1.01	1.01	1.01
C/γ(°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	1.01	0.96	0.96	0.96	0.90	0.84	0.56	0.45	0.39
45.0	0.96	0.96	0.96	0.90	0.84	0.79	0.79	0.79	0.51
90.0	0.96	0.90	0.84	0.84	0.90	0.84	0.84	0.62	0.45
135.0	0.90	0.84	0.84	0.79	0.73	0.73	0.68	0.51	0.45
180.0	1.01	0.96	0.96	0.96	0.96	0.90	0.62	0.45	0.39
225.0	0.96	0.96	0.96	0.90	0.56	0.45	0.39	0.34	0.34
270.0	0.96	0.96	0.96	0.90	0.90	0.56	0.45	0.39	0.39
315.0	1.01	1.01	0.96	0.96	0.96	0.68	0.45	0.39	0.39
360.0	1.01	0.96	0.96	0.96	0.90	0.84	0.56	0.45	0.39

Equipment: 123
Temperature(°C): 345

Date: 2019/10/6
Humidity(%): 456%

Operator: 234

Intensity data(cd)

C/γ(°)	90.0
0.0	0.39
45.0	0.39
90.0	0.39
135.0	0.39
180.0	0.39
225.0	0.34
270.0	0.39
315.0	0.39
360.0	0.39