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Nata

LumCAT: 2-1121-A4	
Luminaire: TE 2213382-1+92.76.365.00	
Report No: NT2017051112	Voltage(V): 218.2000
Test No: GC2017051112	Current(A): 0.1020
LampCAT: NFCLJ 060B	Power (W): 20.3000
Lamp flux(lm): 2136.0	PF: 0.9060
Number of Lamps: 1	Ballast type: DC
Length(mm): 70	Width(mm): 70
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1956.29
Efficiency(%): 91.59%
Lumens(lm)/Power(W): 96.37
Central intensity(cd): 6973.444
Maximum intensity(cd): 6973.444
Angle of maximum intensity: $C=0.0$ $\gamma=0.0$
Beam Angle(50%Imax): [C0/180]Total=25.5
[C90/270]Total=25.5
Field angle(10%Imax): [C0/180]Total=57.8
[C90/270]Total=57.8
Maximum s/h(1/2): C0_180=0.43 C90_270=0.43
Maximum s/h(1/4): C0_180=0.40 C90_270=0.40
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 91.59%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.771%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	6973.444	0.000	0	.000%	.000%
1.0	6960.643	6.667	6.667	.312%	.341%
2.0	6913.019	19.913	26.58	.932%	1.359%
3.0	6844.474	32.903	59.483	1.540%	3.041%
4.0	6752.667	45.514	104.997	2.131%	5.367%
5.0	6588.049	57.391	162.388	2.687%	8.301%
6.0	6402.646	68.270	230.658	3.196%	11.791%
7.0	6133.421	77.811	308.469	3.643%	15.768%
8.0	5767.708	85.174	393.643	3.988%	20.122%
9.0	5387.406	90.406	484.049	4.232%	24.743%
10.0	4925.483	93.328	577.377	4.369%	29.514%
11.0	4368.312	92.864	670.241	4.348%	34.261%
12.0	3863.032	89.980	760.222	4.213%	38.860%
13.0	3346.741	85.562	845.784	4.006%	43.234%
14.0	2774.843	78.356	924.139	3.668%	47.239%
15.0	2365.636	70.571	994.71	3.304%	50.847%
16.0	1935.893	63.029	1057.74	2.951%	54.069%
17.0	1637.116	55.641	1113.381	2.605%	56.913%
18.0	1384.889	49.826	1163.207	2.333%	59.460%
19.0	1219.417	45.310	1208.517	2.121%	61.776%
20.0	1064.681	41.805	1250.322	1.957%	63.913%
21.0	967.038	39.013	1289.335	1.826%	65.907%
22.0	898.878	37.496	1326.832	1.755%	67.824%
23.0	843.189	36.553	1363.385	1.711%	69.693%
24.0	802.887	35.989	1399.374	1.685%	71.532%
25.0	773.363	35.840	1435.215	1.678%	73.364%
26.0	748.230	35.917	1471.132	1.682%	75.200%
27.0	727.419	36.102	1507.234	1.690%	77.046%
28.0	710.902	36.415	1543.649	1.705%	78.907%
29.0	696.078	36.811	1580.46	1.723%	80.789%
30.0	682.947	37.233	1617.693	1.743%	82.692%
31.0	668.536	37.610	1655.303	1.761%	84.615%
32.0	647.229	37.695	1692.998	1.765%	86.541%
33.0	613.796	37.150	1730.148	1.739%	88.440%
34.0	564.356	35.654	1765.803	1.669%	90.263%
35.0	503.160	33.153	1798.956	1.552%	91.958%
36.0	424.554	29.539	1828.495	1.383%	93.468%
37.0	347.310	25.174	1853.668	1.179%	94.754%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	265.427	20.452	1874.121	.958%	95.800%
39.0	197.955	15.817	1889.937	.740%	96.608%
40.0	133.443	11.558	1901.495	.541%	97.199%
41.0	82.089	7.675	1909.17	.359%	97.592%
42.0	44.747	4.608	1913.778	.216%	97.827%
43.0	29.414	2.747	1916.526	.129%	97.968%
44.0	21.555	1.924	1918.449	.090%	98.066%
45.0	17.604	1.505	1919.954	.070%	98.143%
46.0	14.700	1.263	1921.217	.059%	98.207%
47.0	12.580	1.085	1922.302	.051%	98.263%
48.0	10.309	0.925	1923.228	.043%	98.310%
49.0	9.525	0.814	1924.042	.038%	98.352%
50.0	8.905	0.768	1924.811	.036%	98.391%
51.0	8.630	0.742	1925.553	.035%	98.429%
52.0	8.520	0.736	1926.289	.034%	98.467%
53.0	8.424	0.737	1927.026	.035%	98.504%
54.0	8.314	0.738	1927.763	.035%	98.542%
55.0	8.217	0.738	1928.501	.035%	98.580%
56.0	8.162	0.740	1929.241	.035%	98.618%
57.0	8.107	0.744	1929.985	.035%	98.656%
58.0	8.052	0.747	1930.732	.035%	98.694%
59.0	8.011	0.751	1931.483	.035%	98.732%
60.0	7.969	0.755	1932.238	.035%	98.771%
61.0	7.914	0.758	1932.996	.035%	98.809%
62.0	7.873	0.761	1933.757	.036%	98.848%
63.0	7.859	0.765	1934.522	.036%	98.887%
64.0	7.818	0.769	1935.292	.036%	98.927%
65.0	7.832	0.774	1936.066	.036%	98.966%
66.0	7.790	0.779	1936.845	.036%	99.006%
67.0	7.804	0.784	1937.63	.037%	99.046%
68.0	7.777	0.789	1938.419	.037%	99.087%
69.0	7.763	0.793	1939.212	.037%	99.127%
70.0	7.749	0.797	1940.008	.037%	99.168%
71.0	7.735	0.800	1940.809	.037%	99.209%
72.0	7.680	0.802	1941.61	.038%	99.250%
73.0	7.680	0.803	1942.413	.038%	99.291%
74.0	7.680	0.808	1943.221	.038%	99.332%
75.0	7.667	0.811	1944.032	.038%	99.374%

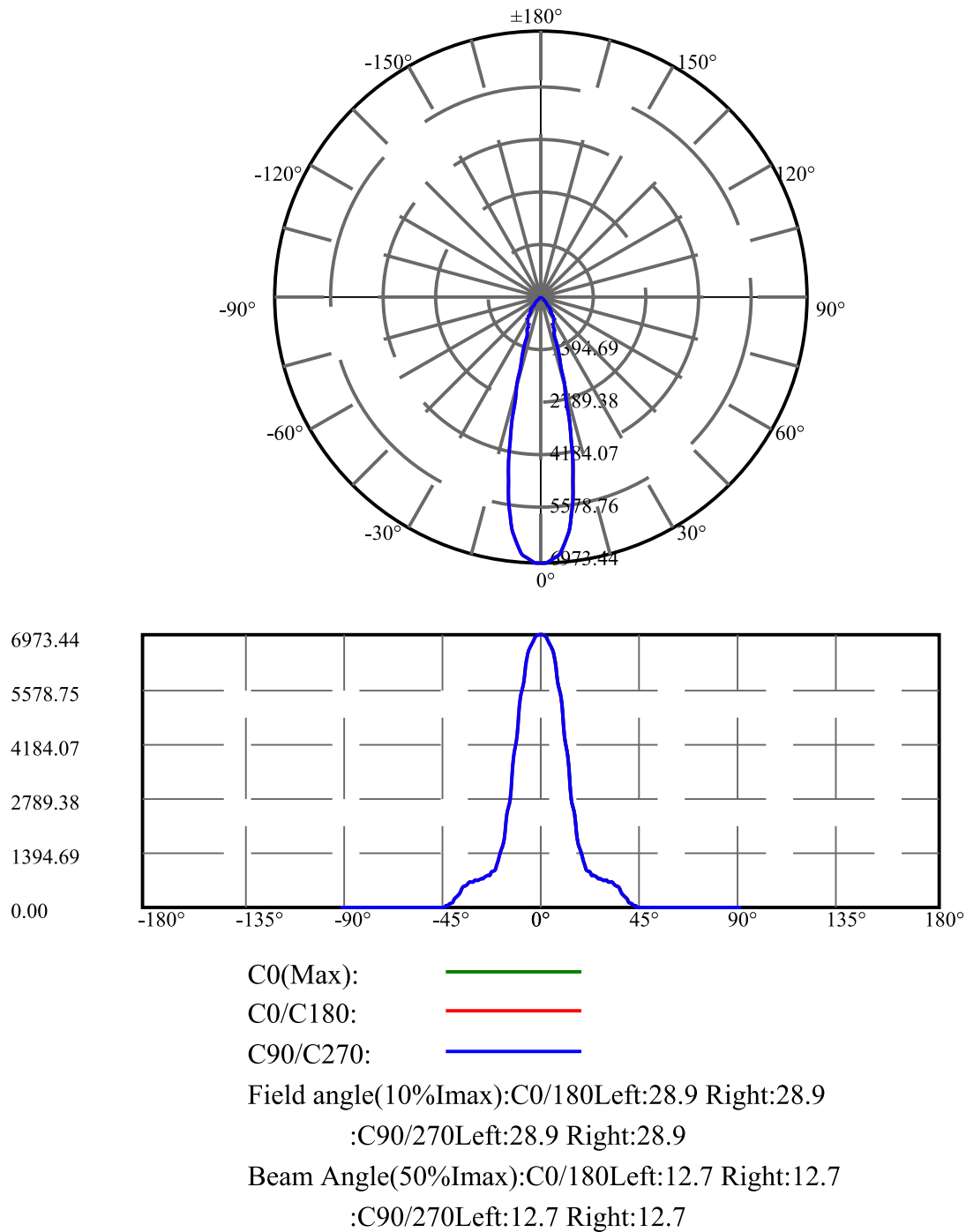
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	7.639	0.812	1944.844	.038%	99.415%
77.0	7.625	0.814	1945.658	.038%	99.457%
78.0	7.612	0.816	1946.474	.038%	99.498%
79.0	7.570	0.816	1947.29	.038%	99.540%
80.0	7.584	0.817	1948.107	.038%	99.582%
81.0	7.570	0.820	1948.926	.038%	99.624%
82.0	7.543	0.820	1949.746	.038%	99.666%
83.0	7.515	0.819	1950.564	.038%	99.707%
84.0	7.515	0.819	1951.383	.038%	99.749%
85.0	7.501	0.820	1952.203	.038%	99.791%
86.0	7.501	0.820	1953.023	.038%	99.833%
87.0	7.446	0.818	1953.841	.038%	99.875%
88.0	7.433	0.815	1954.656	.038%	99.917%
89.0	7.433	0.815	1955.471	.038%	99.958%
90.0	7.446	0.816	1956.286	.038%	100.000%

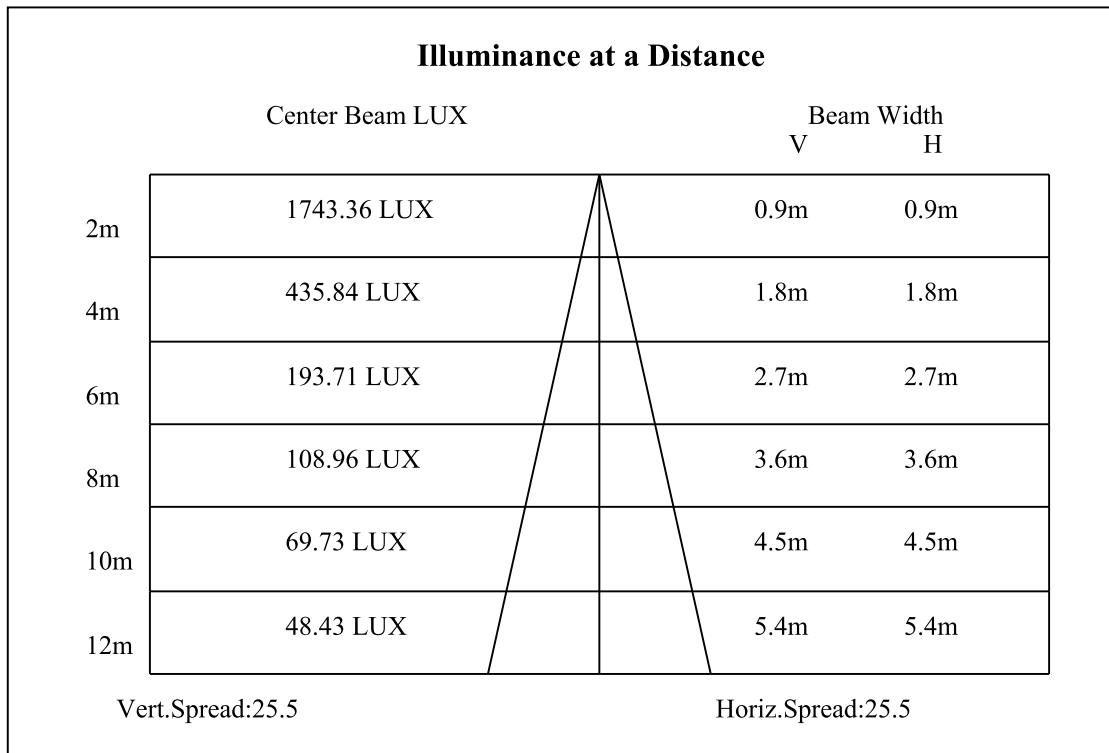
ZONAL LUMEN SUMMARY

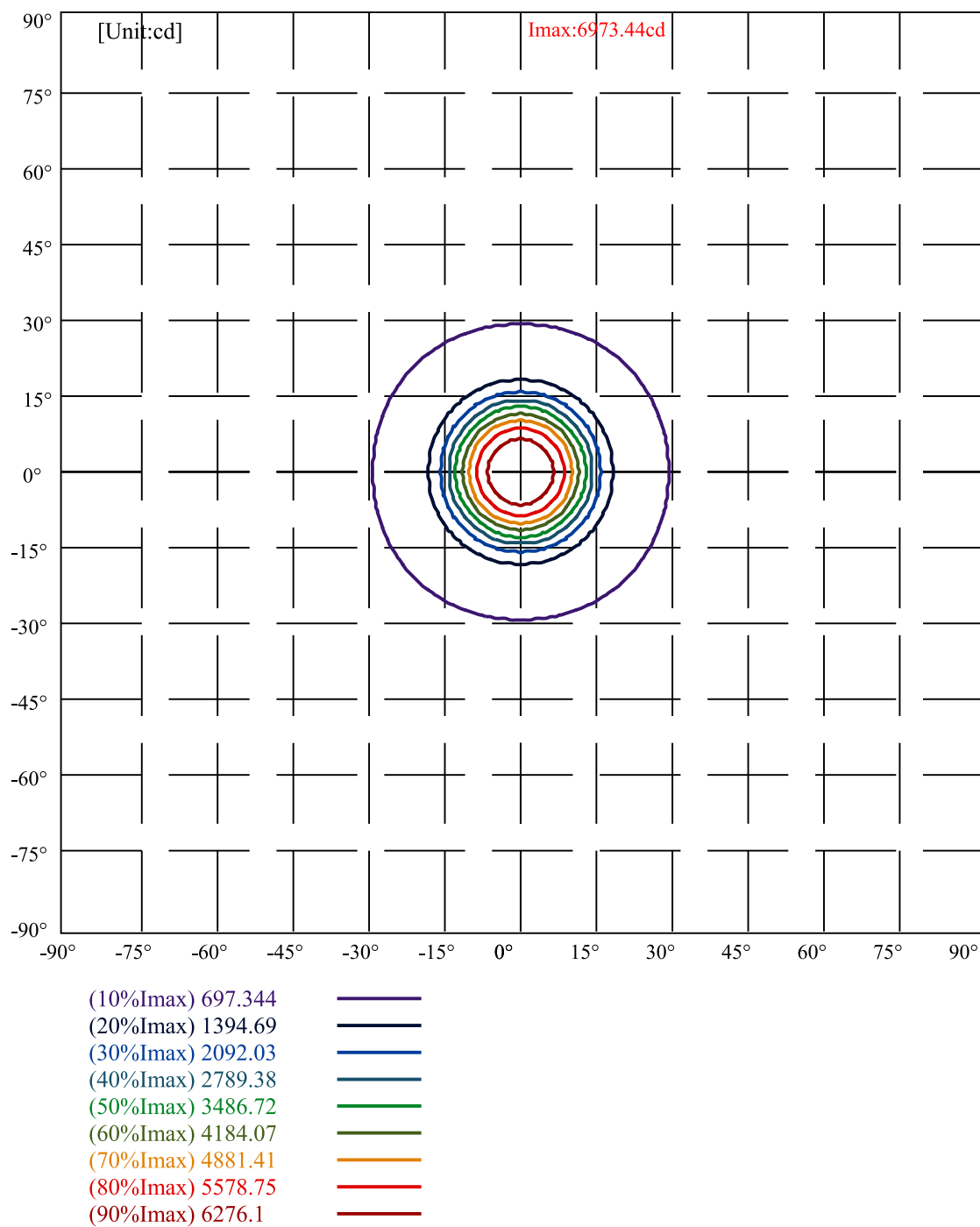
Zone	Lumens	%Lamp	%Fixt
0-30	1617.69	75.73%	82.69%
0-40	1901.50	89.02%	97.20%
0-60	1932.24	90.46%	98.77%
0-90	1955.47	91.55%	99.96%
0-120	1955.47	91.55%	99.96%
0-180	1956.29	91.59%	100.00%
60-90	23.99	1.12%	1.23%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-28.58	1565.03	73.27%	80.00%

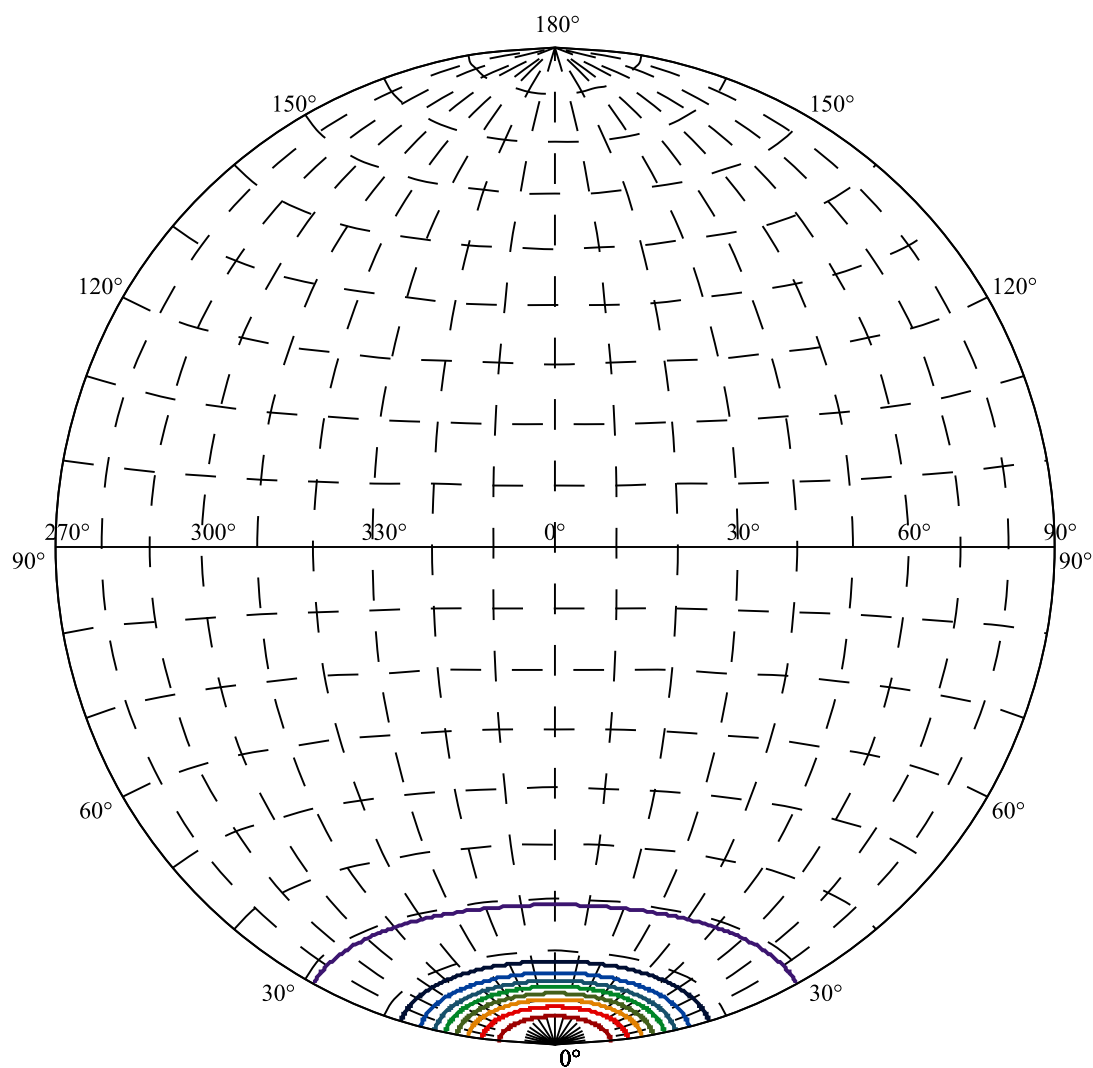
ZONAL LUMEN SUMMARY

0-10	577.38
10-20	672.94
20-30	367.37
30-40	283.80
40-50	23.32
50-60	7.43
60-70	7.77
70-80	8.10
80-90	7.36
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









House

[Unit:cd]

Road

Imax:6973.44

(10%Imax) 697.344

(20%Imax) 1394.69

(30%Imax) 2092.03

(40%Imax) 2789.38

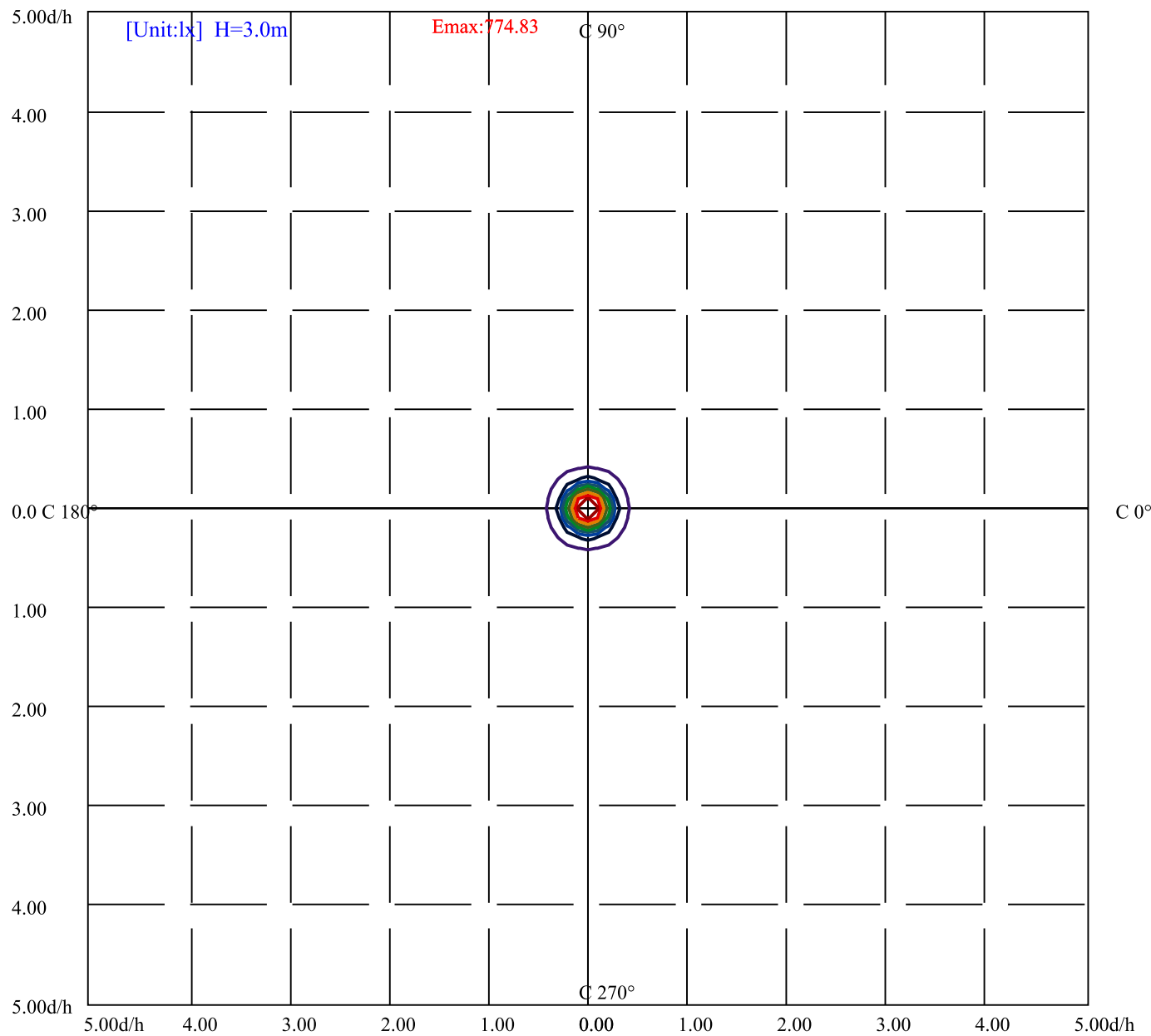
(50%Imax) 3486.72

(60%Imax) 4184.07

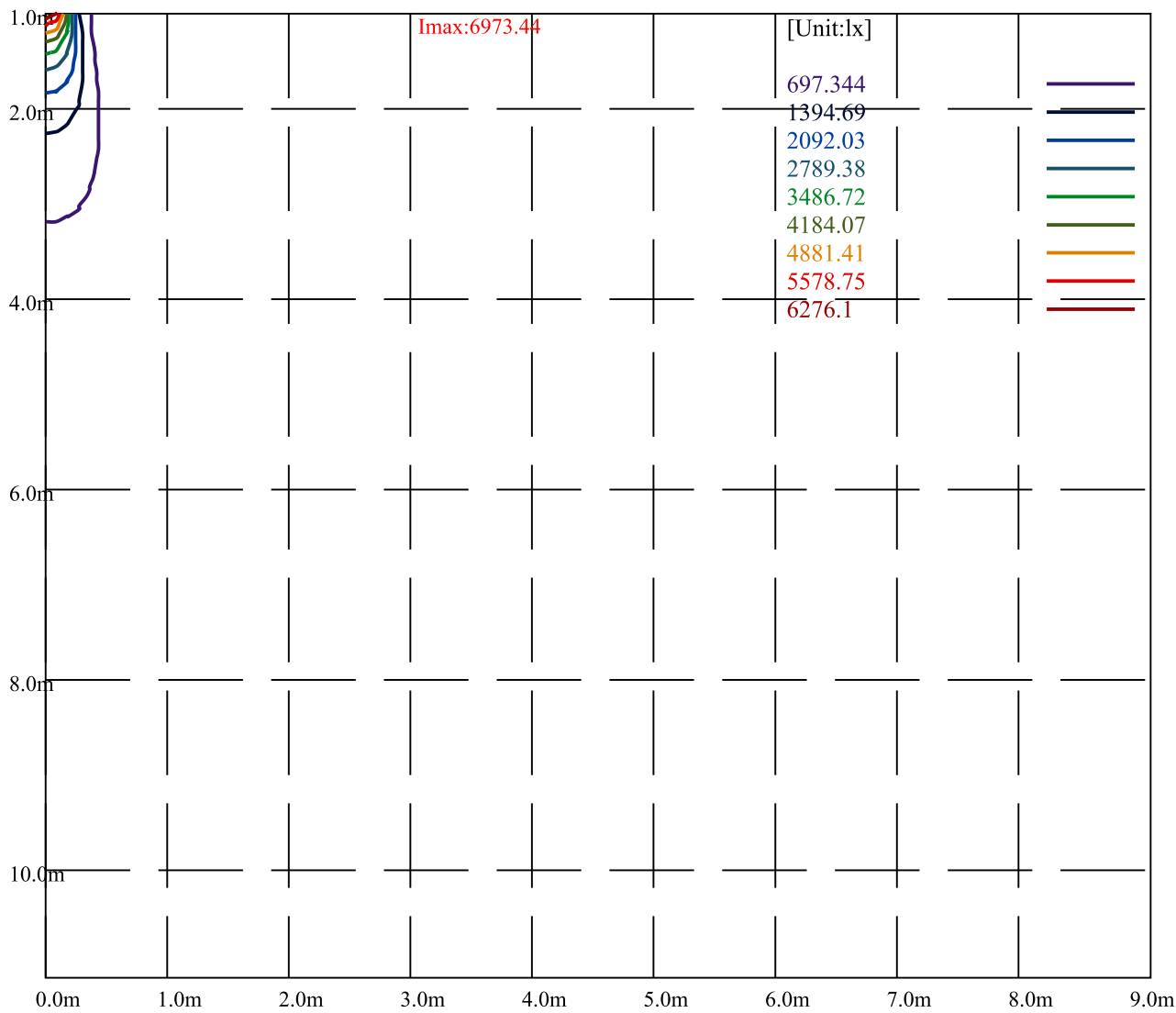
(70%Imax) 4881.41

(80%Imax) 5578.75

(90%Imax) 6276.1



(10%Emax)	77.48267	
(20%Emax)	154.9655	
(30%Emax)	232.4478	
(40%Emax)	309.9311	
(50%Emax)	387.4133	
(60%Emax)	464.8956	
(70%Emax)	542.3789	
(80%Emax)	619.8611	
(90%Emax)	697.3445	



Luminance Table

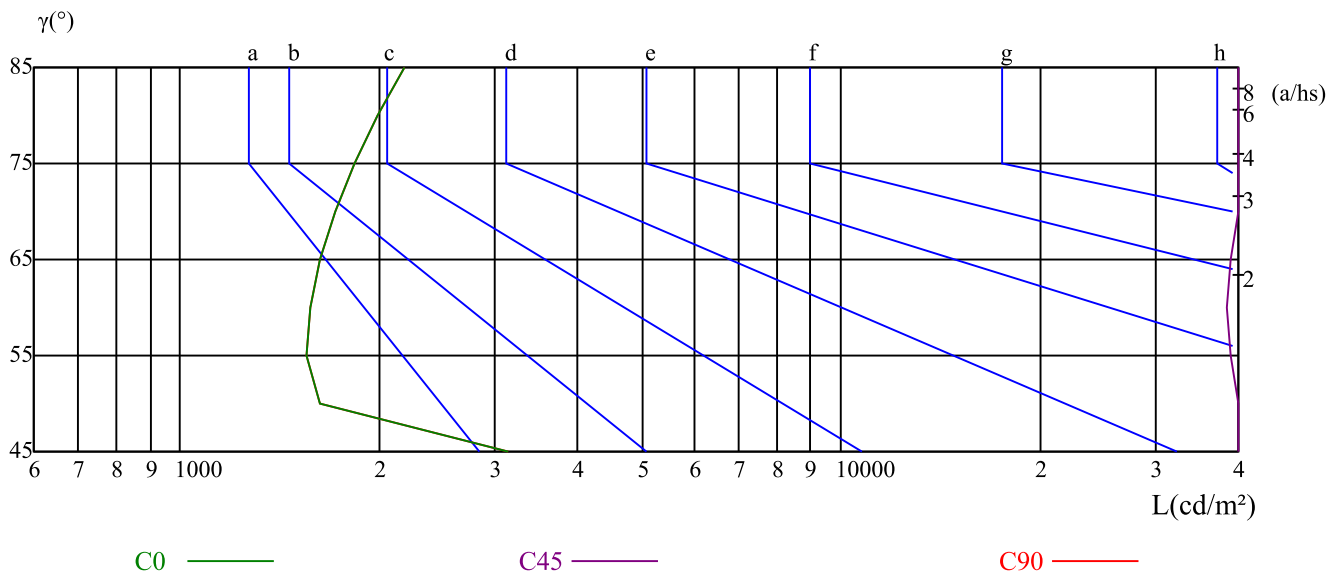
γ	45	50	55	60	65	70	75	80	85
C0	3147	1632	1557	1576	1632	1720	1836	1988	2190
C45	53993	40901	38841	38341	38820	39952	42783	44042	47902
C90	3147	1632	1557	1576	1632	1720	1836	1988	2190

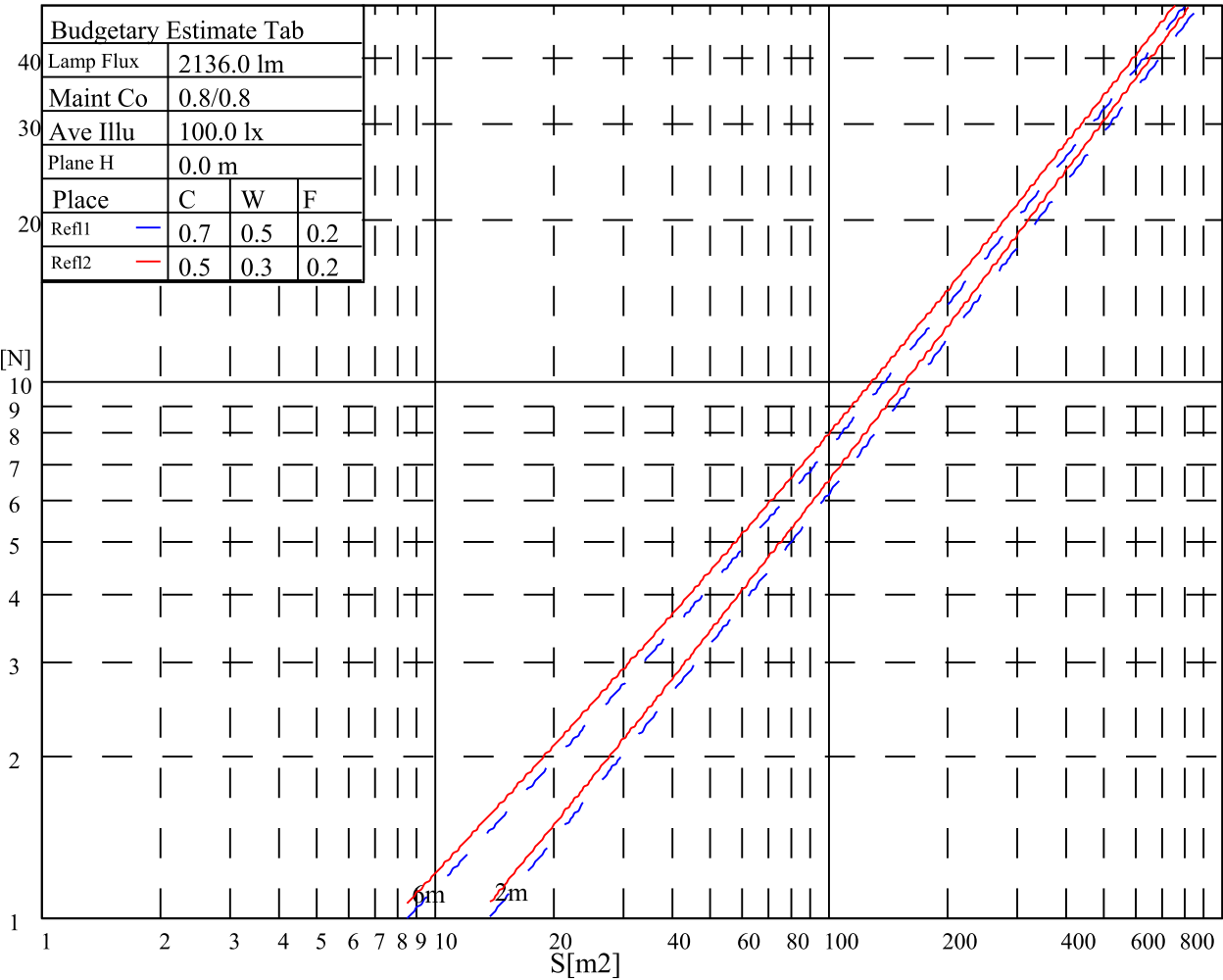
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3782	3782	111142	6045	6045	181492	17565	17565	523555

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





RHOC	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 RHOF=20 CU															
0	1.09	1.09	1.09	1.06	1.06	1.06	1.02	1.02	1.02	0.97	0.97	0.97	0.93	0.93	0.93	0.92
1	1.02	1.00	0.99	1.00	0.99	0.97	0.97	0.95	0.94	0.93	0.92	0.91	0.90	0.89	0.89	0.87
2	0.97	0.94	0.91	0.95	0.92	0.90	0.92	0.90	0.88	0.90	0.88	0.86	0.87	0.86	0.84	0.83
3	0.92	0.88	0.85	0.91	0.87	0.84	0.88	0.85	0.83	0.86	0.84	0.82	0.84	0.82	0.80	0.79
4	0.87	0.83	0.80	0.86	0.83	0.80	0.84	0.81	0.79	0.83	0.80	0.78	0.81	0.79	0.77	0.76
5	0.83	0.79	0.76	0.83	0.79	0.75	0.81	0.78	0.75	0.80	0.77	0.74	0.78	0.76	0.74	0.72
6	0.80	0.75	0.72	0.79	0.75	0.72	0.78	0.74	0.72	0.77	0.73	0.71	0.76	0.73	0.71	0.70
7	0.77	0.72	0.69	0.76	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.68	0.73	0.70	0.68	0.67
8	0.74	0.69	0.66	0.73	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.71	0.68	0.65	0.64
9	0.71	0.67	0.64	0.71	0.66	0.64	0.70	0.66	0.63	0.69	0.66	0.63	0.68	0.65	0.63	0.62
10	0.68	0.64	0.61	0.68	0.64	0.61	0.67	0.64	0.61	0.67	0.63	0.61	0.66	0.63	0.61	0.60

Intensity data(cd)										Appendix Page: 15 Total:16	
C/γ(°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0		
0.0	6992.16	7031.25	7024.10	6983.35	6913.98	6783.50	6663.48	6536.30	6357.36		
90.0	6954.72	6965.19	6947.57	6918.39	6872.14	6766.43	6612.27	6377.73	6024.82		
180.0	6992.16	6924.99	6818.18	6688.25	6514.82	6250.00	5938.93	5501.79	4983.15		
270.0	6954.72	6921.14	6862.23	6787.90	6709.72	6552.26	6395.90	6117.87	5705.49		
360.0	6992.16	7031.25	7024.10	6983.35	6913.98	6783.50	6663.48	6536.30	6357.36		
C/γ(°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0		
0.0	6131.08	5872.87	5517.20	5141.72	4660.52	4124.83	3616.65	3030.85	2490.75		
90.0	5604.74	5164.84	4592.25	3973.97	3412.95	2814.48	2339.90	1895.04	1556.44		
180.0	4461.77	3840.18	3208.69	2671.34	2196.20	1721.06	1434.77	1087.80	1057.14		
270.0	5352.03	4824.04	4155.11	3665.10	3117.29	2439.00	2071.22	1729.87	1444.13		
360.0	6131.08	5872.87	5517.20	5141.72	4660.52	4124.83	3616.65	3030.85	2490.75		
C/γ(°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0		
0.0	2083.88	1748.59	1423.21	1226.66	1078.00	959.63	879.25	831.35	791.71		
90.0	1330.16	1157.84	1015.24	939.81	886.96	840.71	810.43	784.55	759.78		
180.0	950.60	888.22	839.33	802.78	778.00	755.21	737.37	720.30	705.16		
270.0	1174.90	1083.01	980.94	898.91	852.55	817.20	784.50	757.25	736.27		
360.0	2083.88	1748.59	1423.21	1226.66	1078.00	959.63	879.25	831.35	791.71		
C/γ(°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0		
0.0	762.53	742.16	725.09	709.68	694.81	682.70	671.69	658.47	642.51		
90.0	739.96	723.44	708.58	696.46	683.25	670.04	654.62	606.17	535.70		
180.0	691.34	679.56	666.13	653.85	634.53	585.30	506.96	424.65	334.14		
270.0	715.84	698.45	684.52	671.80	661.56	650.88	621.92	568.13	500.30		
360.0	762.53	742.16	725.09	709.68	694.81	682.70	671.69	658.47	642.51		
C/γ(°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0		
0.0	612.78	554.42	456.97	367.78	288.50	189.23	100.15	49.11	27.14		
90.0	458.62	376.59	280.79	233.66	128.45	68.10	27.69	23.67	19.99		
180.0	221.60	142.49	78.79	38.26	26.37	23.84	20.98	18.06	15.42		
270.0	405.22	315.75	245.17	152.12	90.46	47.18	30.17	26.81	23.67		
360.0	612.78	554.42	456.97	367.78	288.50	189.23	100.15	49.11	27.14		
C/γ(°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0		
0.0	21.09	18.77	16.46	14.09	12.06	10.02	9.19	9.03	8.92		
90.0	16.74	14.26	12.17	9.52	8.75	8.59	8.53	8.42	8.31		
180.0	12.28	8.92	8.70	8.53	8.48	8.42	8.31	8.26	8.20		
270.0	20.32	16.85	12.99	9.08	8.81	8.59	8.48	8.37	8.26		
360.0	21.09	18.77	16.46	14.09	12.06	10.02	9.19	9.03	8.92		
C/γ(°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0		
0.0	8.81	8.64	8.48	8.42	8.31	8.31	8.26	8.20	8.15		
90.0	8.15	8.09	8.09	8.04	7.98	7.93	7.87	7.82	7.76		
180.0	8.09	8.04	8.04	7.98	7.98	7.93	7.93	7.87	7.82		
270.0	8.20	8.09	8.04	7.98	7.93	7.87	7.82	7.76	7.76		
360.0	8.81	8.64	8.48	8.42	8.31	8.31	8.26	8.20	8.15		
C/γ(°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0		
0.0	8.09	8.04	8.04	7.98	8.04	8.04	8.04	8.04	8.04		
90.0	7.76	7.76	7.76	7.71	7.71	7.65	7.65	7.65	7.60		
180.0	7.82	7.76	7.82	7.76	7.76	7.76	7.71	7.65	7.71		
270.0	7.76	7.71	7.71	7.71	7.71	7.65	7.65	7.65	7.60		
360.0	8.09	8.04	8.04	7.98	8.04	8.04	8.04	8.04	8.04		

Intensity data(cd)										Appendix Page: 16 Total:16
C/ γ (°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0	
0.0	7.93	7.93	7.93	7.93	7.87	7.87	7.87	7.82	7.82	
90.0	7.54	7.54	7.54	7.54	7.54	7.54	7.49	7.49	7.43	
180.0	7.65	7.65	7.65	7.65	7.60	7.60	7.60	7.54	7.60	
270.0	7.60	7.60	7.60	7.54	7.54	7.49	7.49	7.43	7.49	
360.0	7.93	7.93	7.93	7.93	7.87	7.87	7.87	7.82	7.82	
C/ γ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0	
0.0	7.76	7.76	7.71	7.71	7.71	7.71	7.60	7.54	7.54	
90.0	7.43	7.38	7.38	7.43	7.38	7.38	7.32	7.32	7.32	
180.0	7.60	7.60	7.54	7.54	7.54	7.54	7.54	7.54	7.54	
270.0	7.49	7.43	7.43	7.38	7.38	7.38	7.32	7.32	7.32	
360.0	7.76	7.76	7.71	7.71	7.71	7.71	7.60	7.54	7.54	
C/ γ (°)	90.0									
0.0	7.54									
90.0	7.38									
180.0	7.54									
270.0	7.32									
360.0	7.54									