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NATA

LumCAT: 3-1939-M
Luminaire: BJB 47.319.2135
Report No: NATA0100
Test No: GC2019012107
LampCAT: PHILIPS Certaflux slm 1205
Lamp flux(lm): 2360.0
Number of Lamps: 1
Length(mm): 78
Phm Type: C

Voltage(V): 36.9500
Current(A): 0.5000
Power (W): 18.4750
PF: 0.0000
Ballast type: DC
Width(mm): 78
Height(mm): 0

Photometric Results

Lumens(lm): 2107.83
Efficiency(%): 89.31%
Lumens(lm)/Power(W): 114.21
Central intensity(cd): 9171.703
Maximum intensity(cd): 9171.703
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=24.2
[C90/270]Total=24.2
Field angle(10%Imax): [C0/180]Total=43.6
[C90/270]Total=43.6
Maximum s/h(1/2): C0_180=0.41 C90_270=0.41
Maximum s/h(1/4): C0_180=0.39 C90_270=0.39
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 89.40%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 98.582%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	9171.703	2.194	2.194	.093%	.104%
1.0	9135.844	17.485	19.679	.741%	.934%
2.0	9022.922	34.532	54.211	1.463%	2.572%
3.0	8834.906	50.705	104.916	2.149%	4.977%
4.0	8594.508	65.744	170.66	2.786%	8.096%
5.0	8278.523	79.123	249.783	3.353%	11.850%
6.0	7890.188	90.443	340.225	3.832%	16.141%
7.0	7375.852	98.573	438.799	4.177%	20.818%
8.0	6891.469	105.177	543.975	4.457%	25.807%
9.0	6343.313	108.818	652.793	4.611%	30.970%
10.0	5755.148	109.592	762.385	4.644%	36.169%
11.0	5232.797	109.493	871.877	4.640%	41.364%
12.0	4657.430	106.188	978.066	4.500%	46.401%
13.0	3968.156	97.888	1075.954	4.148%	51.045%
14.0	3328.453	88.302	1164.255	3.742%	55.235%
15.0	2749.922	78.049	1242.304	3.307%	58.937%
16.0	2182.852	65.980	1308.285	2.796%	62.068%
17.0	1782.773	57.159	1365.444	2.422%	64.779%
18.0	1438.594	48.750	1414.193	2.066%	67.092%
19.0	1168.228	41.708	1455.901	1.767%	69.071%
20.0	1056.790	39.636	1495.538	1.680%	70.951%
21.0	964.737	37.913	1533.451	1.606%	72.750%
22.0	906.096	37.222	1570.673	1.577%	74.516%
23.0	865.807	37.098	1607.771	1.572%	76.276%
24.0	831.762	37.099	1644.87	1.572%	78.036%
25.0	802.455	37.190	1682.06	1.576%	79.800%
26.0	783.830	37.680	1719.74	1.597%	81.588%
27.0	767.693	38.220	1757.96	1.619%	83.401%
28.0	752.555	38.744	1796.703	1.642%	85.239%
29.0	739.399	39.310	1836.013	1.666%	87.104%
30.0	726.645	39.842	1875.855	1.688%	88.994%
31.0	691.214	39.039	1914.895	1.654%	90.847%
32.0	624.502	36.291	1951.185	1.538%	92.568%
33.0	539.241	32.206	1983.392	1.365%	94.096%
34.0	427.043	26.187	2009.579	1.110%	95.339%
35.0	332.754	20.930	2030.509	.887%	96.332%
36.0	225.633	14.544	2045.052	.616%	97.022%
37.0	135.359	8.933	2053.985	.379%	97.445%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
38.0	60.314	4.072	2058.057	.173%	97.639%
39.0	29.398	2.029	2060.086	.086%	97.735%
40.0	21.298	1.501	2061.587	.064%	97.806%
41.0	18.070	1.300	2062.888	.055%	97.868%
42.0	15.609	1.145	2064.033	.049%	97.922%
43.0	13.535	1.012	2065.045	.043%	97.970%
44.0	12.241	0.933	2065.978	.040%	98.014%
45.0	11.461	0.889	2066.866	.038%	98.056%
46.0	11.102	0.876	2067.742	.037%	98.098%
47.0	10.856	0.871	2068.613	.037%	98.139%
48.0	10.659	0.869	2069.482	.037%	98.180%
49.0	10.455	0.865	2070.347	.037%	98.222%
50.0	10.329	0.868	2071.215	.037%	98.263%
51.0	10.209	0.870	2072.085	.037%	98.304%
52.0	10.090	0.872	2072.956	.037%	98.345%
53.0	9.977	0.874	2073.83	.037%	98.387%
54.0	9.872	0.876	2074.706	.037%	98.428%
55.0	9.788	0.879	2075.585	.037%	98.470%
56.0	9.717	0.883	2076.469	.037%	98.512%
57.0	9.640	0.887	2077.355	.038%	98.554%
58.0	9.570	0.890	2078.245	.038%	98.596%
59.0	9.506	0.894	2079.139	.038%	98.639%
60.0	9.457	0.898	2080.037	.038%	98.681%
61.0	9.401	0.902	2080.939	.038%	98.724%
62.0	9.366	0.907	2081.845	.038%	98.767%
63.0	9.302	0.909	2082.754	.039%	98.810%
64.0	9.260	0.913	2083.667	.039%	98.853%
65.0	9.218	0.916	2084.583	.039%	98.897%
66.0	9.176	0.919	2085.502	.039%	98.941%
67.0	9.169	0.926	2086.428	.039%	98.984%
68.0	9.105	0.926	2087.354	.039%	99.028%
69.0	9.084	0.930	2088.284	.039%	99.073%
70.0	9.049	0.932	2089.216	.040%	99.117%
71.0	9.028	0.936	2090.152	.040%	99.161%
72.0	9.007	0.939	2091.092	.040%	99.206%
73.0	8.972	0.941	2092.033	.040%	99.250%
74.0	8.944	0.943	2092.975	.040%	99.295%
75.0	8.937	0.947	2093.922	.040%	99.340%

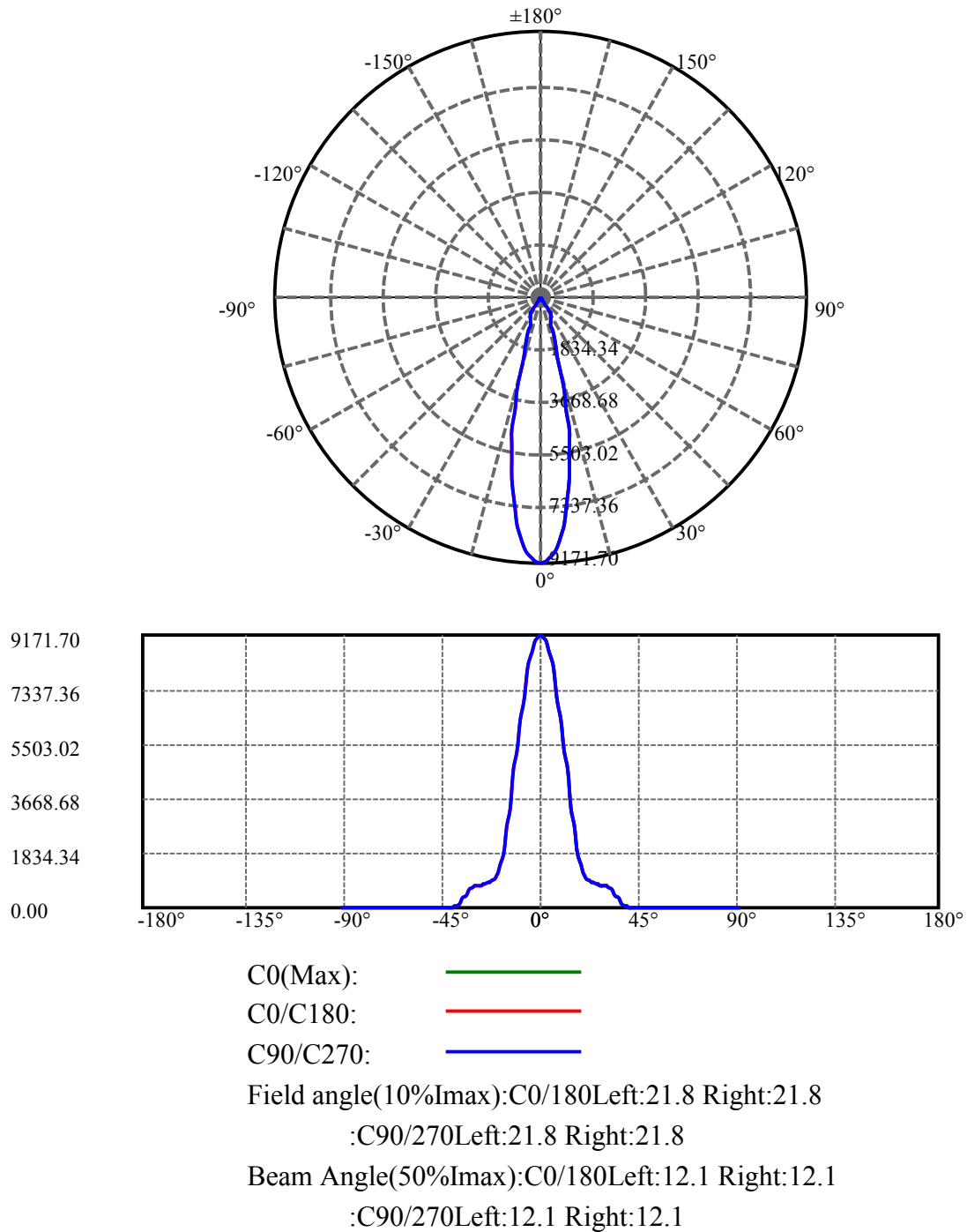
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	8.930	0.950	2094.872	.040%	99.385%
77.0	8.902	0.951	2095.823	.040%	99.430%
78.0	8.895	0.954	2096.777	.040%	99.475%
79.0	8.866	0.954	2097.732	.040%	99.521%
80.0	8.852	0.956	2098.688	.041%	99.566%
81.0	8.859	0.960	2099.647	.041%	99.612%
82.0	8.838	0.960	2100.607	.041%	99.657%
83.0	8.824	0.960	2101.568	.041%	99.703%
84.0	8.810	0.961	2102.528	.041%	99.748%
85.0	8.817	0.963	2103.492	.041%	99.794%
86.0	8.810	0.964	2104.455	.041%	99.840%
87.0	8.817	0.966	2105.421	.041%	99.886%
88.0	8.803	0.965	2106.386	.041%	99.931%
89.0	8.810	0.966	2107.352	.041%	99.977%
90.0	8.789	0.482	2107.834	.020%	100.000%

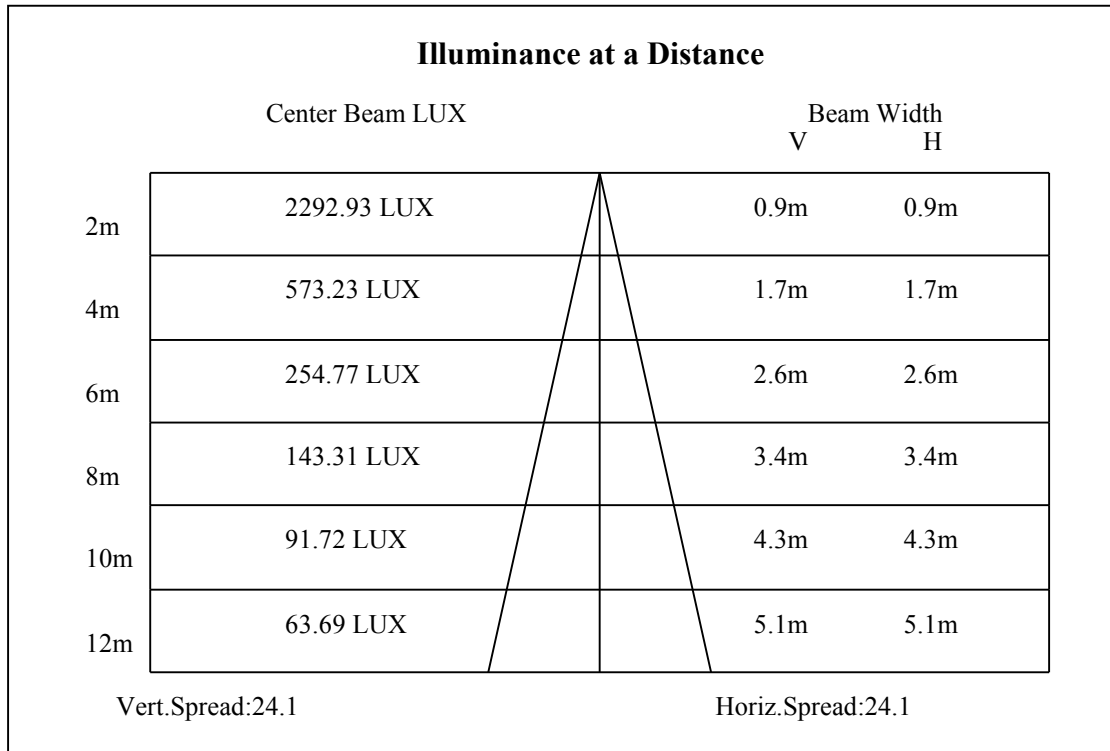
ZONAL LUMEN SUMMARY

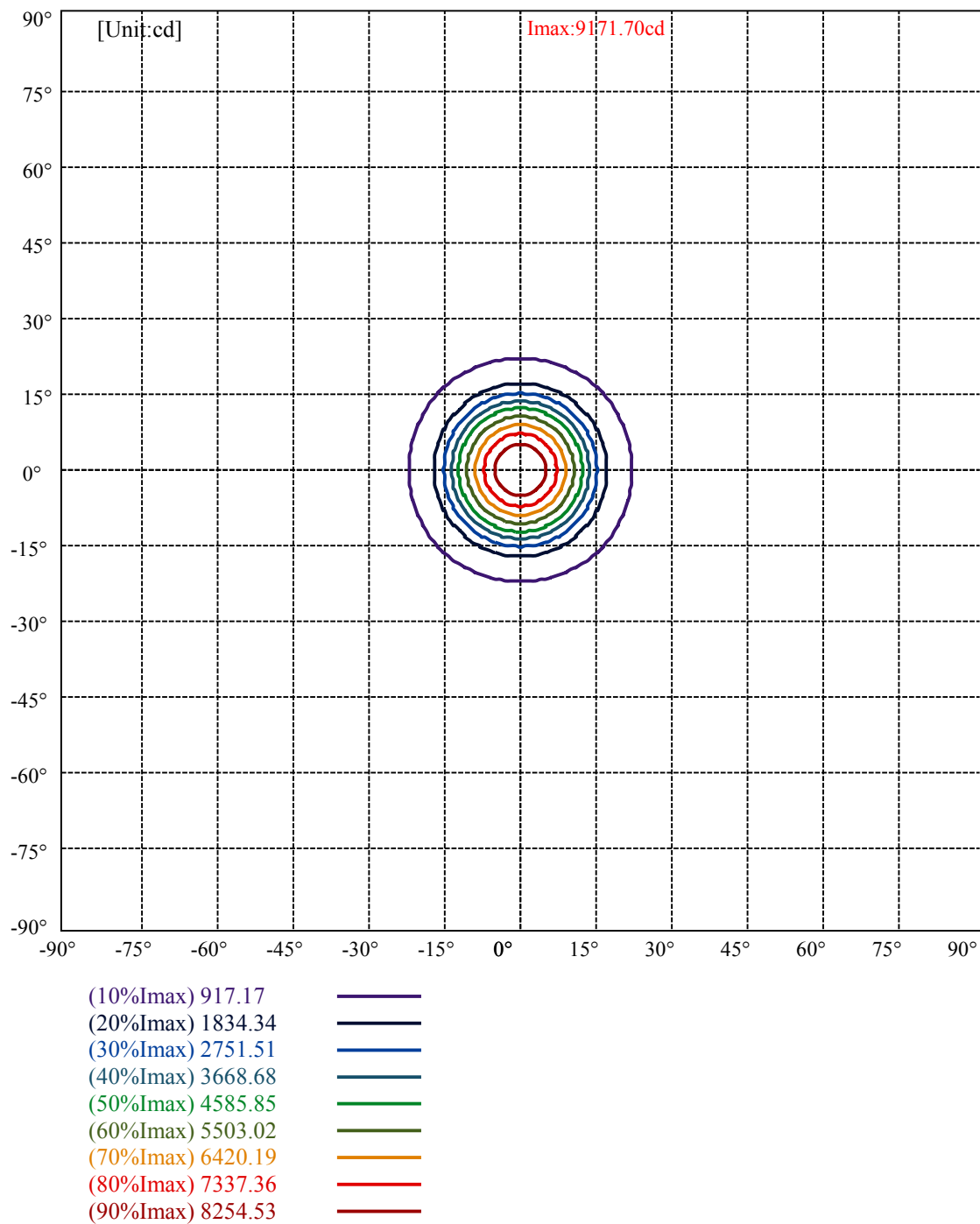
Zone	Lumens	%Lamp	%Fixt
0-30	1875.86	79.49%	88.99%
0-40	2061.59	87.36%	97.81%
0-60	2080.04	88.14%	98.68%
0-90	2107.35	89.29%	99.98%
0-120	2107.35	89.29%	99.98%
0-180	2107.83	89.31%	100.00%
60-90	28.21	1.20%	1.34%
90-120	0.00	0.00%	0.00%
90-130	0.00	0.00%	0.00%
90-150	0.00	0.00%	0.00%
90-180	0.00	0.00%	0.00%
0-25.11	1686.27	71.45%	80.00%

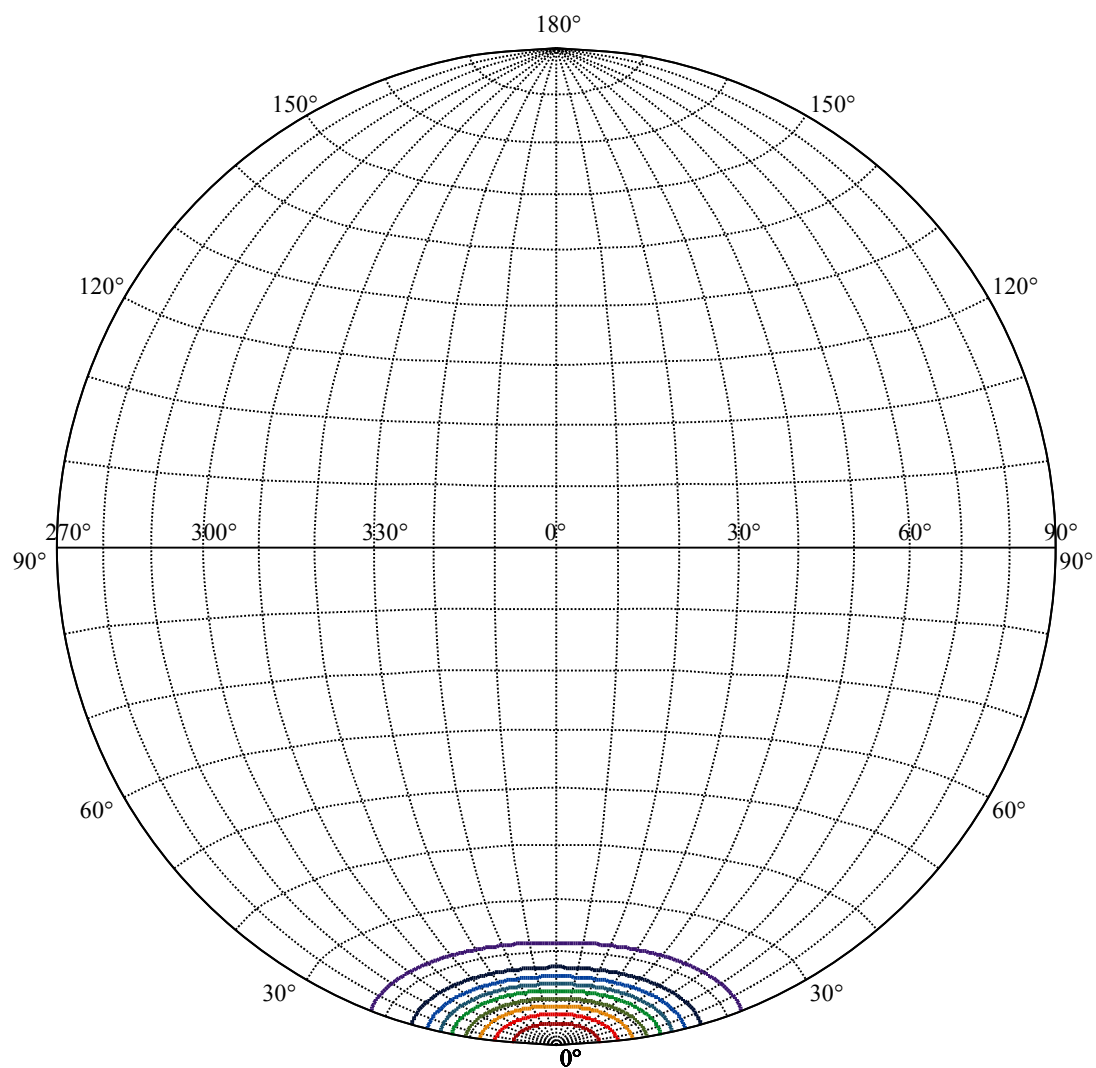
ZONAL LUMEN SUMMARY

0-10	762.38
10-20	733.15
20-30	380.32
30-40	185.73
40-50	9.63
50-60	8.82
60-70	9.18
70-80	9.47
80-90	8.66
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:9171.70

(10%Imax) 917.17

(20%Imax) 1834.34

(30%Imax) 2751.51

(40%Imax) 3668.68

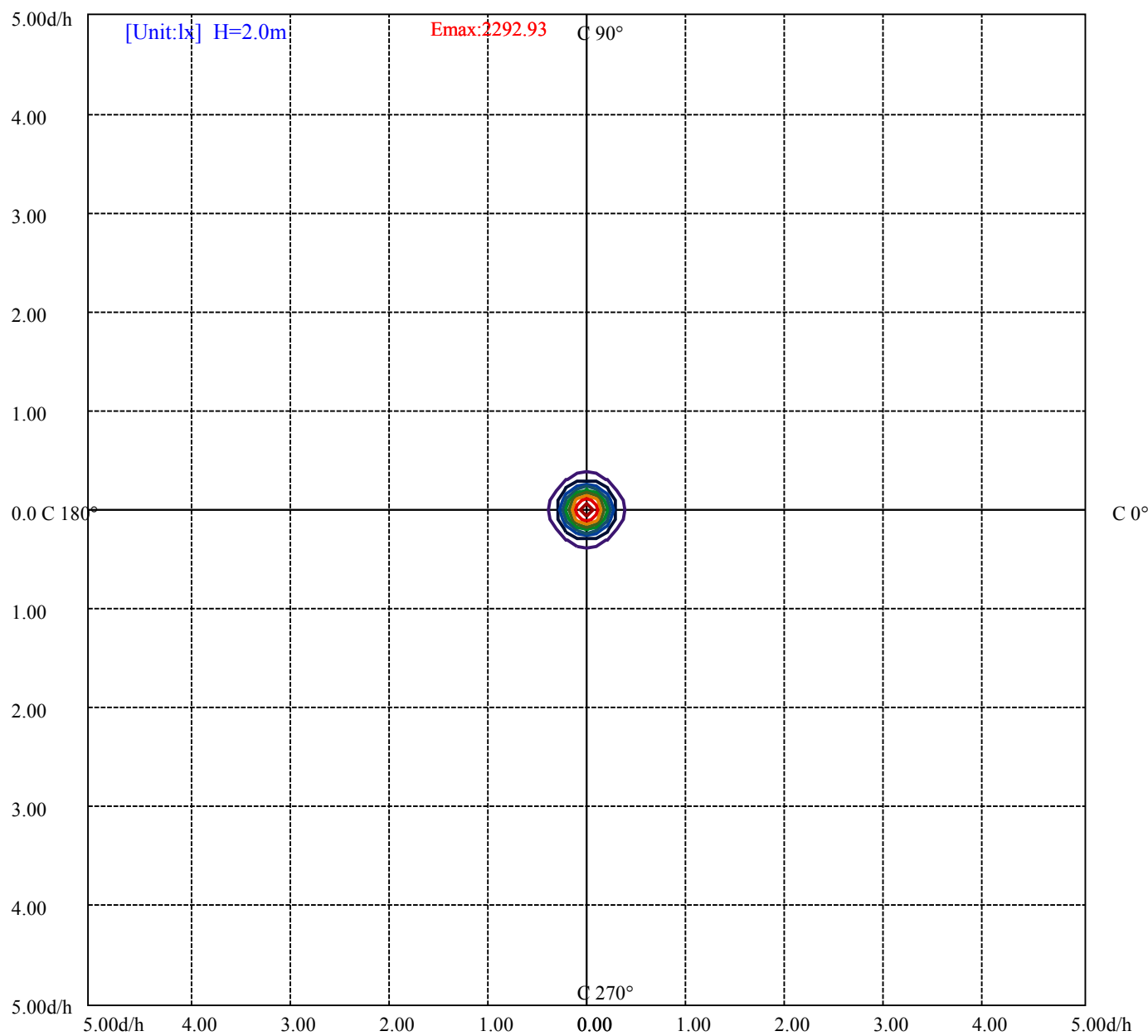
(50%Imax) 4585.85

(60%Imax) 5503.02

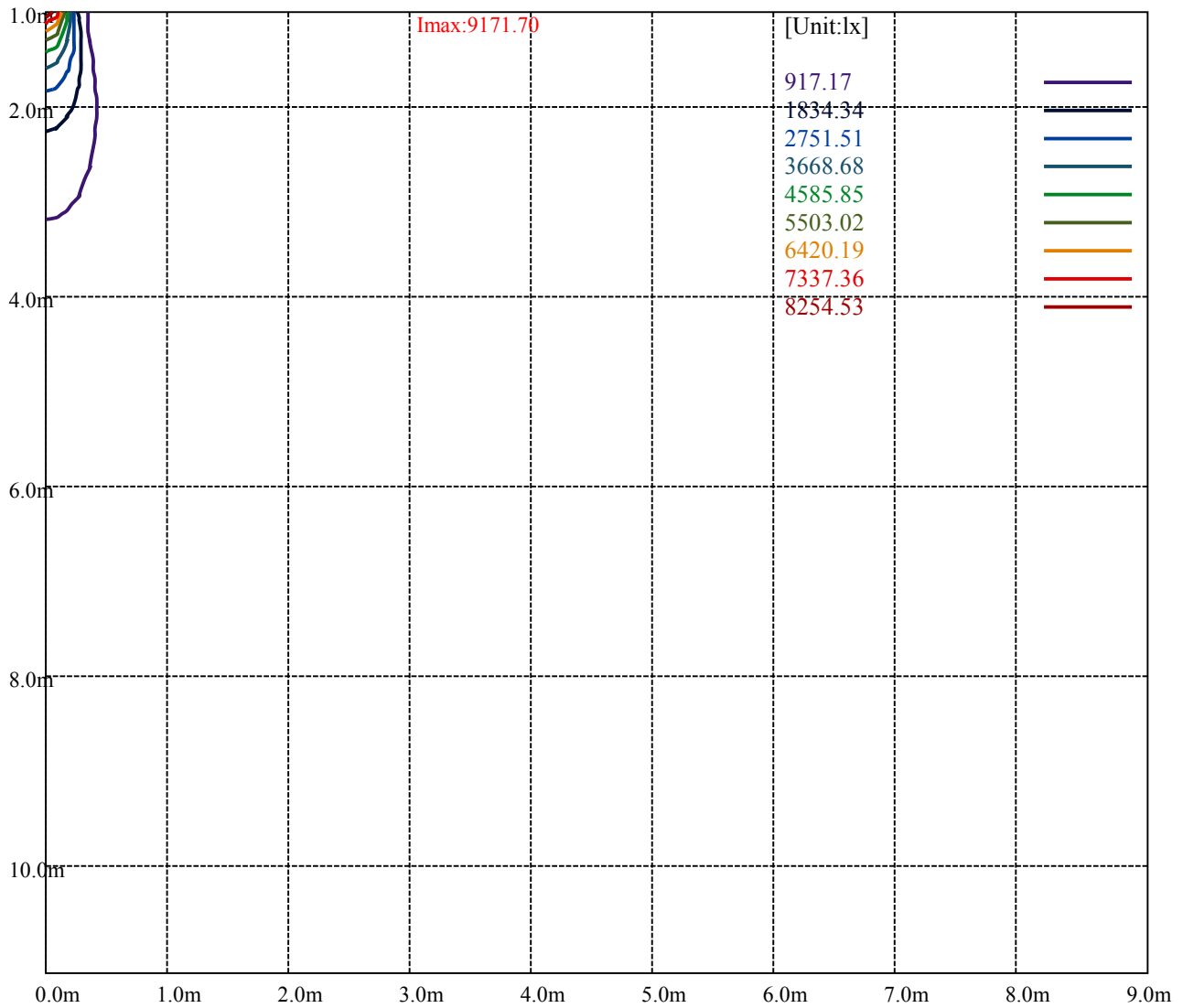
(70%Imax) 6420.19

(80%Imax) 7337.36

(90%Imax) 8254.53



(10%E _{max}) 229.2925	—
(20%E _{max}) 458.585	—
(30%E _{max}) 687.8775	—
(40%E _{max}) 917.17	—
(50%E _{max}) 1146.463	—
(60%E _{max}) 1375.755	—
(70%E _{max}) 1605.047	—
(80%E _{max}) 1834.34	—
(90%E _{max}) 2063.633	—



Luminance Table

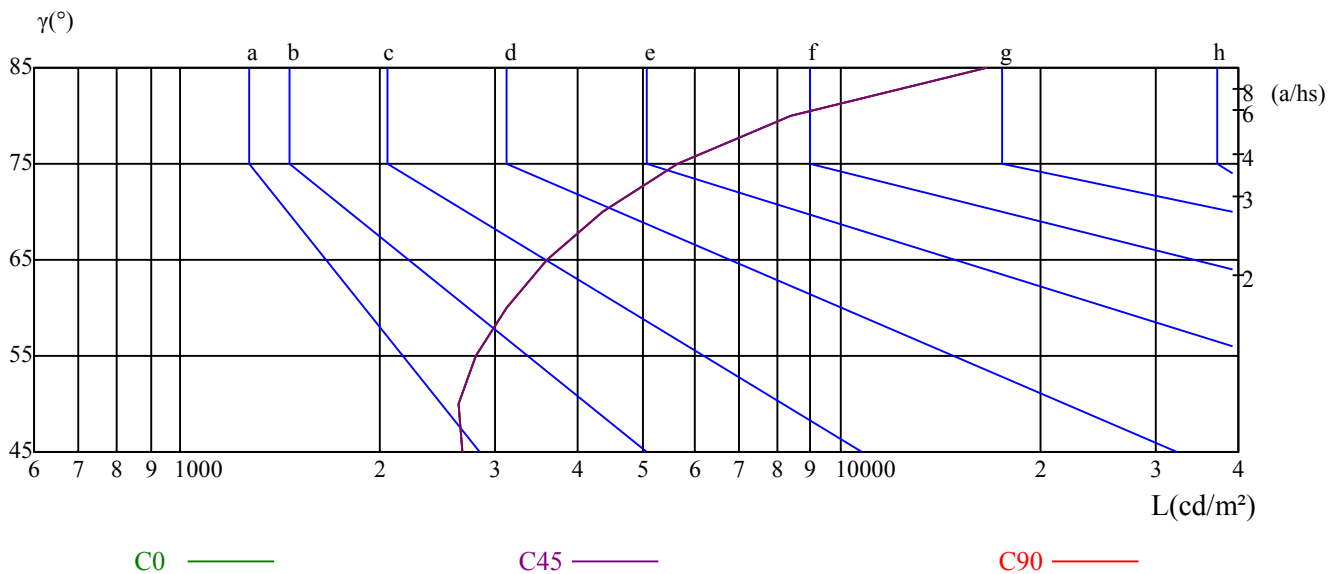
γ	45	50	55	60	65	70	75	80	85
C0	2664	2641	2805	3109	3585	4349	5675	8379	16628
C45	2664	2641	2805	3109	3585	4349	5675	8379	16628
C90	2664	2641	2805	3109	3585	4349	5675	8379	16628

L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
3585	3585	3585	5675	5675	5675	16628	16628	16628

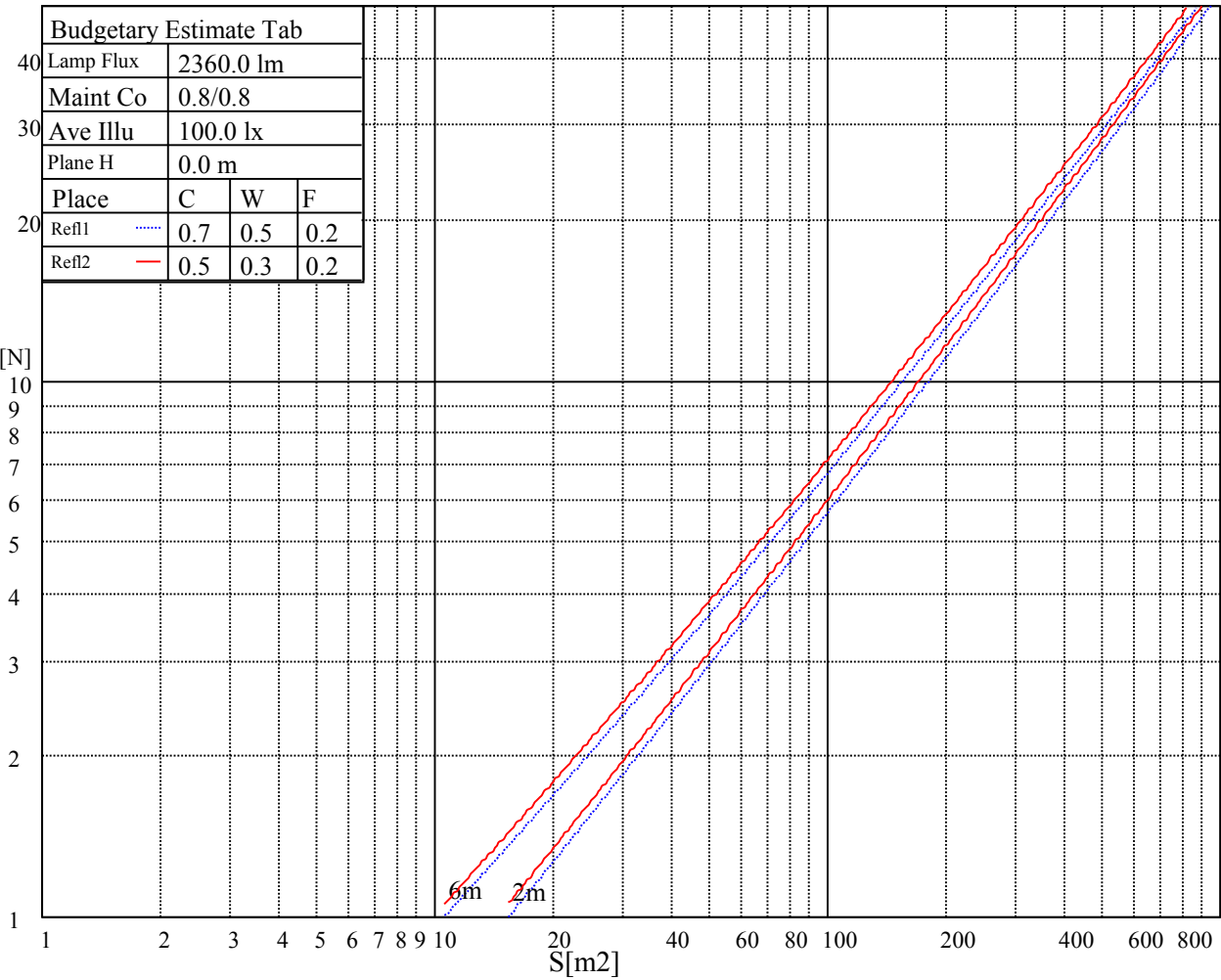
Glare Table

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

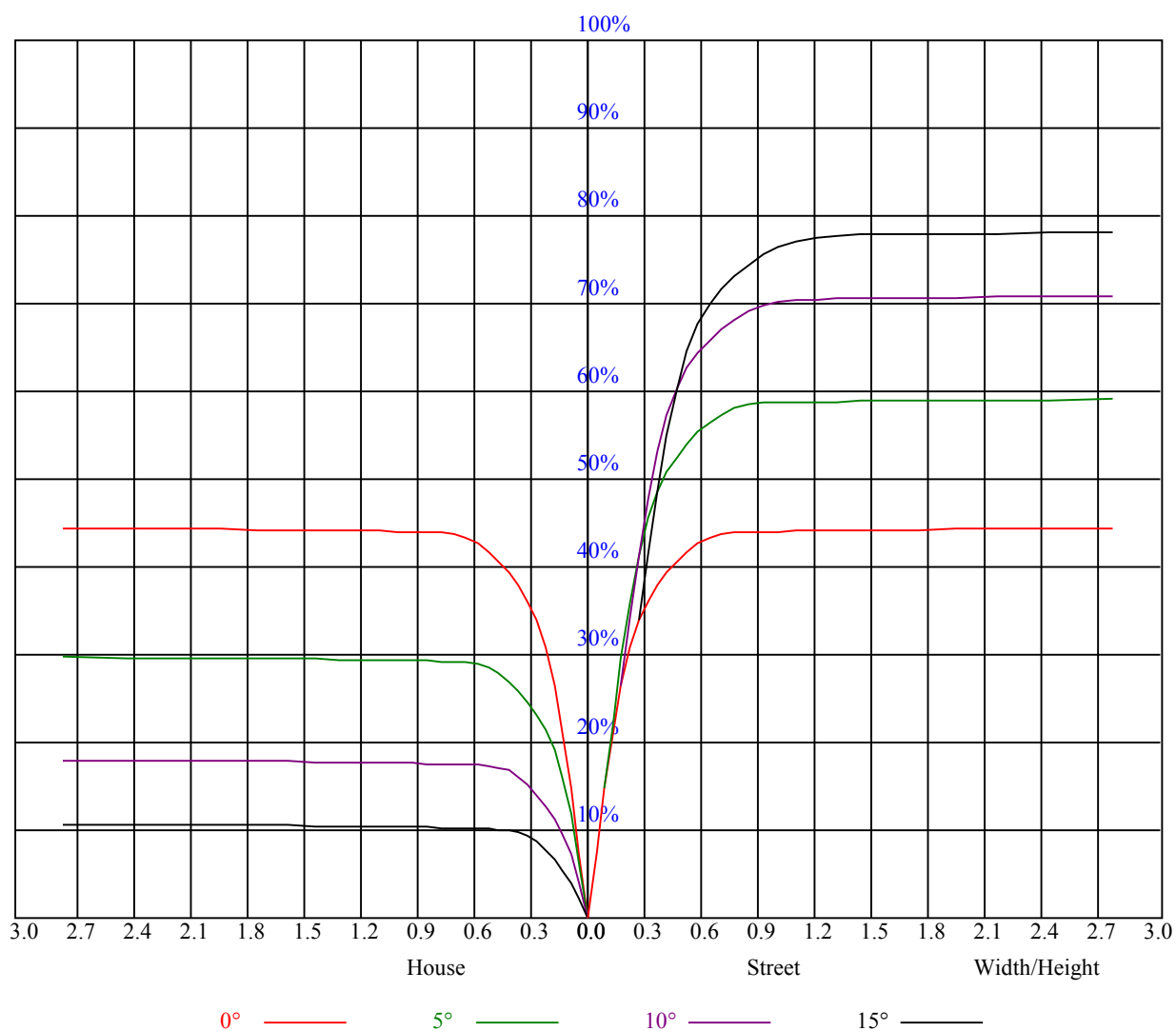
Luminance Limiting Curve



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	1.80	2.71	2.17	3.02	3.34	1.86	2.77	2.23	3.08	3.40
	3H	5.08	5.88	5.46	6.22	6.59	5.10	5.90	5.48	6.24	6.61
	4H	6.85	7.59	7.26	7.95	8.34	6.85	7.60	7.26	7.95	8.34
	6H	8.84	9.52	9.26	9.89	10.29	8.83	9.51	9.25	9.89	10.28
	8H	9.94	10.57	10.38	10.97	11.38	9.93	10.56	10.36	10.96	11.37
	12H	11.72	12.33	12.16	12.71	13.15	11.71	12.31	12.14	12.70	13.13
4H	2H	2.73	3.48	3.14	3.83	4.22	2.77	3.52	3.18	3.87	4.26
	3H	6.24	6.85	6.66	7.26	7.67	6.25	6.86	6.67	7.27	7.68
	4H	8.18	8.72	8.62	9.15	9.60	8.17	8.72	8.61	9.14	9.59
	6H	10.33	10.79	10.80	11.25	11.72	10.32	10.78	10.79	11.23	11.71
	8H	11.52	11.96	12.00	12.41	12.89	11.51	11.94	11.99	12.39	12.87
	12H	13.20	13.57	13.69	14.06	14.54	13.18	13.56	13.68	14.05	14.52
8H	4H	8.91	9.34	9.39	9.80	10.27	8.90	9.34	9.38	9.79	10.27
	6H	11.33	11.67	11.84	12.18	12.66	11.32	11.66	11.83	12.16	12.65
	8H	12.72	13.02	13.25	13.54	14.04	12.70	13.00	13.24	13.53	14.03
	12H	14.53	14.78	15.05	15.28	15.87	14.51	14.77	15.04	15.27	15.85
12H	4H	9.12	9.49	9.61	9.98	10.46	9.12	9.49	9.61	9.98	10.46
	6H	11.85	11.95	12.19	12.43	12.98	11.84	11.94	12.18	12.42	12.97
	8H	13.17	13.43	13.69	13.92	14.51	13.16	13.41	13.68	13.91	14.50
Variation with the observer position at spacings:											
S = 1.0H		6.0/-6.6					6.0/-6.6				
S = 1.5H		7.9/-4.6					7.9/-4.6				
S = 2.0H		9.1/-3.3					9.1/-3.3				
Standard tables:		BK3					BK3				
Uncorrected UGR		-0.4					-0.4				



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 RHOFC=20 CU															
0	1.06	1.06	1.06	1.04	1.04	1.04	0.99	0.99	0.99	0.95	0.95	0.95	0.91	0.91	0.91	0.89
1	1.00	0.98	0.97	0.98	0.97	0.95	0.95	0.93	0.92	0.91	0.90	0.89	0.88	0.88	0.87	0.85
2	0.95	0.92	0.90	0.94	0.91	0.89	0.91	0.89	0.87	0.88	0.87	0.85	0.86	0.85	0.83	0.82
3	0.91	0.87	0.84	0.90	0.86	0.84	0.87	0.85	0.83	0.85	0.83	0.81	0.83	0.82	0.80	0.79
4	0.87	0.83	0.80	0.86	0.82	0.80	0.84	0.81	0.79	0.82	0.80	0.78	0.81	0.79	0.77	0.76
5	0.83	0.79	0.77	0.83	0.79	0.76	0.81	0.78	0.76	0.80	0.77	0.75	0.79	0.76	0.74	0.73
6	0.80	0.76	0.73	0.80	0.76	0.73	0.78	0.75	0.73	0.77	0.74	0.72	0.76	0.74	0.72	0.71
7	0.78	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.70	0.75	0.72	0.70	0.74	0.72	0.70	0.69
8	0.75	0.71	0.68	0.75	0.71	0.68	0.74	0.70	0.68	0.73	0.70	0.68	0.72	0.69	0.67	0.66
9	0.73	0.69	0.66	0.72	0.69	0.66	0.72	0.68	0.66	0.71	0.68	0.66	0.70	0.67	0.65	0.65
10	0.70	0.67	0.64	0.70	0.66	0.64	0.69	0.66	0.64	0.69	0.66	0.64	0.68	0.66	0.64	0.63



NATA 3-1939-M

Intensity data(cd)									Appendix Page: 17 Total:19
C/ γ (°)	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0
0.0	9188.44	9100.13	8917.31	8701.31	8390.25	7972.88	7530.75	6988.50	6523.88
45.0	9191.81	9102.38	8913.94	8697.94	8391.94	7981.31	7542.56	6989.63	6516.00
90.0	9156.94	9073.13	8916.75	8684.44	8435.25	8106.75	7635.94	7090.88	6584.06
135.0	9149.63	9164.81	9107.44	8984.25	8794.13	8543.25	8233.88	7767.56	7272.56
180.0	9188.44	9203.63	9160.31	9006.75	8805.94	8567.44	8249.06	7738.31	7232.63
225.0	9191.81	9207.56	9156.94	8991.00	8808.19	8576.44	8223.75	7759.69	7256.25
270.0	9156.94	9167.63	9095.63	8956.13	8740.13	8444.81	8096.63	7638.19	7180.88
315.0	9149.63	9067.50	8915.06	8657.44	8390.25	8035.31	7608.94	7034.06	6565.50
360.0	9188.44	9100.13	8917.31	8701.31	8390.25	7972.88	7530.75	6988.50	6523.88
C/ γ (°)	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0
0.0	6000.75	5461.88	4951.69	4403.25	3679.88	3097.69	2559.94	1986.19	1632.38
45.0	5988.38	5439.38	4915.13	4355.44	3607.31	3015.56	2491.88	1946.25	1603.13
90.0	5997.94	5413.50	4870.13	4209.19	3593.25	2928.94	2348.44	1918.13	1577.81
135.0	6674.06	6063.75	5544.56	4998.94	4248.00	3624.75	3042.56	2397.94	1677.06
180.0	6696.56	6034.50	5504.63	4946.06	4271.06	3584.25	2997.56	2405.81	1958.63
225.0	6652.69	6058.13	5529.38	4902.19	4310.44	3628.13	2964.38	2430.00	1971.56
270.0	6645.38	6097.50	5603.63	5070.38	4339.69	3718.69	3107.25	2413.13	1949.63
315.0	6090.75	5472.56	4943.25	4374.00	3695.63	3029.63	2487.38	1965.38	1602.00
360.0	6000.75	5461.88	4951.69	4403.25	3679.88	3097.69	2559.94	1986.19	1632.38
C/ γ (°)	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
0.0	1368.56	1166.63	1042.31	972.56	918.00	879.75	844.31	815.63	795.94
45.0	1338.75	1143.56	1018.69	951.19	900.56	861.19	826.88	799.88	780.75
90.0	1209.94	1106.89	1002.21	920.93	876.94	843.41	815.46	788.29	771.53
135.0	1611.56	1315.69	1104.19	992.25	916.31	869.63	831.94	802.69	783.00
180.0	1551.38	1111.95	1075.73	961.26	895.05	854.21	822.21	791.21	772.76
225.0	1534.50	1115.61	1098.11	974.25	915.24	872.33	837.90	805.61	786.77
270.0	1579.50	1277.44	1091.25	995.06	928.69	885.94	847.13	816.75	797.06
315.0	1314.56	1108.07	1021.84	950.40	897.98	860.01	828.28	799.59	782.83
360.0	1368.56	1166.63	1042.31	972.56	918.00	879.75	844.31	815.63	795.94
C/ γ (°)	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
0.0	777.94	762.75	750.38	738.00	678.38	601.31	514.13	388.13	295.88
45.0	763.31	748.13	734.06	720.00	658.13	576.00	487.69	362.25	293.63
90.0	757.01	742.22	727.93	714.83	663.98	575.61	474.19	374.91	279.62
135.0	765.56	750.94	738.56	726.19	709.31	656.44	577.69	465.19	369.00
180.0	757.97	743.34	729.62	717.36	704.03	649.41	572.85	470.59	370.41
225.0	771.30	754.43	742.22	728.16	716.06	669.04	593.27	489.26	388.07
270.0	779.63	764.44	752.06	740.25	725.06	681.19	603.56	488.81	389.81
315.0	768.83	754.20	740.36	728.38	674.78	587.03	490.56	377.21	275.63
360.0	777.94	762.75	750.38	738.00	678.38	601.31	514.13	388.13	295.88
C/ γ (°)	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
0.0	184.73	95.34	33.24	22.67	19.35	16.88	14.63	12.99	12.04
45.0	170.49	93.09	28.41	22.67	19.52	16.48	14.01	12.60	11.48
90.0	175.73	88.54	35.38	22.89	19.58	16.99	14.85	12.88	11.70
135.0	285.75	161.94	80.89	34.76	23.23	19.63	16.65	14.18	12.66
180.0	259.93	162.56	89.66	34.71	22.73	19.29	16.71	14.12	12.71
225.0	270.17	169.37	91.74	36.79	23.51	19.69	16.93	14.29	12.88
270.0	286.88	226.01	87.69	37.97	23.34	19.01	16.59	14.51	12.71
315.0	171.39	86.01	35.49	22.73	19.13	16.59	14.51	12.71	11.76
360.0	184.73	95.34	33.24	22.67	19.35	16.88	14.63	12.99	12.04

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Intensity data(cd)										Appendix Page: 18 Total:19	
C/ γ (°)	45.0	46.0	47.0	48.0	49.0	50.0	51.0	52.0	53.0		
0.0	11.48	11.25	10.91	10.69	10.46	10.35	10.24	10.13	10.01		
45.0	10.97	10.80	10.69	10.52	10.41	10.29	10.18	10.07	9.90		
90.0	11.19	11.03	10.86	10.46	10.35	10.24	10.07	9.96	9.90		
135.0	11.59	11.08	10.80	10.69	10.52	10.41	10.29	10.18	10.07		
180.0	11.76	11.19	10.97	10.80	10.63	10.52	10.41	10.24	10.13		
225.0	11.87	11.36	11.14	10.97	10.46	10.29	10.18	10.07	9.96		
270.0	11.48	11.03	10.80	10.63	10.46	10.29	10.18	10.07	9.96		
315.0	11.36	11.08	10.69	10.52	10.35	10.24	10.13	10.01	9.90		
360.0	11.48	11.25	10.91	10.69	10.46	10.35	10.24	10.13	10.01		
C/ γ (°)	54.0	55.0	56.0	57.0	58.0	59.0	60.0	61.0	62.0		
0.0	9.90	9.84	9.73	9.68	9.56	9.56	9.51	9.39	9.39		
45.0	9.84	9.73	9.68	9.62	9.56	9.45	9.45	9.39	9.34		
90.0	9.79	9.73	9.68	9.56	9.51	9.45	9.39	9.39	9.34		
135.0	9.96	9.84	9.79	9.68	9.62	9.56	9.51	9.45	9.45		
180.0	10.01	9.90	9.84	9.73	9.68	9.56	9.51	9.45	9.39		
225.0	9.84	9.79	9.68	9.62	9.56	9.51	9.45	9.39	9.34		
270.0	9.84	9.73	9.68	9.62	9.56	9.51	9.45	9.34	9.34		
315.0	9.79	9.73	9.68	9.62	9.51	9.45	9.39	9.39	9.34		
360.0	9.90	9.84	9.73	9.68	9.56	9.56	9.51	9.39	9.39		
C/ γ (°)	63.0	64.0	65.0	66.0	67.0	68.0	69.0	70.0	71.0		
0.0	9.28	9.28	9.23	9.17	9.17	9.06	9.06	9.00	9.00		
45.0	9.28	9.23	9.23	9.17	9.17	9.11	9.06	9.06	9.06		
90.0	9.28	9.23	9.17	9.17	9.17	9.11	9.11	9.06	9.00		
135.0	9.34	9.28	9.28	9.23	9.23	9.11	9.11	9.06	9.06		
180.0	9.34	9.28	9.23	9.23	9.17	9.17	9.11	9.06	9.06		
225.0	9.28	9.28	9.23	9.17	9.17	9.11	9.06	9.06	9.06		
270.0	9.34	9.28	9.23	9.17	9.17	9.11	9.11	9.06	9.00		
315.0	9.28	9.23	9.17	9.11	9.11	9.06	9.06	9.06	9.00		
360.0	9.28	9.28	9.23	9.17	9.17	9.06	9.06	9.00	9.00		
C/ γ (°)	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0	80.0		
0.0	9.00	9.00	8.94	8.89	8.94	8.89	8.89	8.83	8.83		
45.0	9.00	9.00	8.94	8.94	8.94	8.94	8.89	8.89	8.83		
90.0	9.00	8.94	8.94	8.94	8.94	8.89	8.89	8.89	8.83		
135.0	9.06	9.06	8.94	8.94	8.94	8.94	8.94	8.89	8.89		
180.0	9.00	8.94	8.94	8.94	8.89	8.89	8.89	8.83	8.83		
225.0	9.00	8.94	8.94	8.94	8.94	8.89	8.89	8.89	8.89		
270.0	9.00	8.94	8.94	8.94	8.94	8.89	8.89	8.89	8.89		
315.0	9.00	8.94	8.94	8.94	8.89	8.89	8.89	8.83	8.83		
360.0	9.00	9.00	8.94	8.89	8.94	8.89	8.89	8.83	8.83		
C/ γ (°)	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0		
0.0	8.83	8.83	8.78	8.83	8.78	8.78	8.78	8.83	8.78		
45.0	8.89	8.83	8.83	8.78	8.83	8.83	8.83	8.78	8.83		
90.0	8.83	8.83	8.83	8.78	8.83	8.83	8.83	8.83	8.83		
135.0	8.89	8.83	8.83	8.83	8.83	8.78	8.83	8.83	8.83		
180.0	8.83	8.83	8.78	8.78	8.83	8.83	8.78	8.78	8.78		
225.0	8.89	8.83	8.83	8.83	8.83	8.83	8.83	8.78	8.83		
270.0	8.89	8.89	8.89	8.83	8.83	8.83	8.83	8.83	8.83		
315.0	8.83	8.83	8.83	8.83	8.78	8.78	8.83	8.78	8.78		
360.0	8.83	8.83	8.78	8.83	8.78	8.78	8.78	8.83	8.78		

Intensity data(cd)

Appendix Page: 19 Total:19

C/ $\gamma(^{\circ})$	90.0
0.0	8.78
45.0	8.78
90.0	8.83
135.0	8.78
180.0	8.78
225.0	8.78
270.0	8.78
315.0	8.83
360.0	8.78