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Nata

LumCAT: 4-2273-M	
Luminaire: 92.70.135.00	
Report No: NATA0100	Voltage(V): 34.0000
Test No: GC2018070412	Current(A): 0.5000
LampCAT: NICHIA NFCWD096B-V3	Power (W): 17.0000
Lamp flux(lm): 2202.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 100	Width(mm): 100
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 1977.96
Efficiency(%): 89.83%
Lumens(lm)/Power(W): 116.35
Central intensity(cd): 29061.520
Maximum intensity(cd): 29061.520
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=10.1
 [C90/270]Total=10.1
Field angle(10%Imax): [C0/180]Total=20.4
 [C90/270]Total=20.4
Maximum s/h(1/2): C0_180=0.18 C90_270=0.18
Maximum s/h(1/4): C0_180=0.18 C90_270=0.18
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 91.07%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.364%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	29061.521	27.811	27.811	1.263%	1.406%
2.0	26188.953	200.448	228.259	9.103%	11.540%
4.0	18662.742	285.513	513.772	12.966%	25.975%
6.0	10767.724	246.845	760.616	11.210%	38.455%
8.0	5721.805	174.644	935.26	7.931%	47.284%
10.0	3026.657	115.265	1050.525	5.235%	53.112%
12.0	1789.677	81.605	1132.131	3.706%	57.237%
14.0	1142.111	60.597	1192.727	2.752%	60.301%
16.0	935.401	56.546	1249.273	2.568%	63.160%
18.0	845.302	57.287	1306.561	2.602%	66.056%
20.0	802.722	60.212	1366.773	2.734%	69.100%
22.0	765.800	62.915	1429.688	2.857%	72.281%
24.0	734.728	65.540	1495.228	2.976%	75.594%
26.0	712.691	68.519	1563.746	3.112%	79.058%
28.0	694.158	71.471	1635.218	3.246%	82.672%
30.0	671.365	73.620	1708.837	3.343%	86.394%
32.0	651.255	75.688	1784.525	3.437%	90.220%
34.0	577.707	70.849	1855.374	3.217%	93.802%
36.0	382.277	49.279	1904.653	2.238%	96.294%
38.0	191.314	25.832	1930.485	1.173%	97.600%
40.0	36.991	5.215	1935.7	.237%	97.863%
42.0	17.570	2.578	1938.278	.117%	97.994%
44.0	11.266	1.716	1939.995	.078%	98.080%
46.0	9.814	1.548	1941.543	.070%	98.159%
48.0	9.518	1.551	1943.094	.070%	98.237%
50.0	9.256	1.555	1944.649	.071%	98.316%
52.0	9.043	1.563	1946.212	.071%	98.395%
54.0	8.864	1.573	1947.785	.071%	98.474%
56.0	8.733	1.588	1949.373	.072%	98.555%
58.0	8.630	1.605	1950.978	.073%	98.636%
60.0	8.541	1.622	1952.6	.074%	98.718%
62.0	8.465	1.639	1954.239	.074%	98.801%
64.0	8.424	1.660	1955.899	.075%	98.885%
66.0	8.375	1.678	1957.578	.076%	98.969%
68.0	8.334	1.695	1959.272	.077%	99.055%
70.0	8.307	1.712	1960.984	.078%	99.142%
72.0	8.272	1.725	1962.71	.078%	99.229%
74.0	8.279	1.745	1964.455	.079%	99.317%

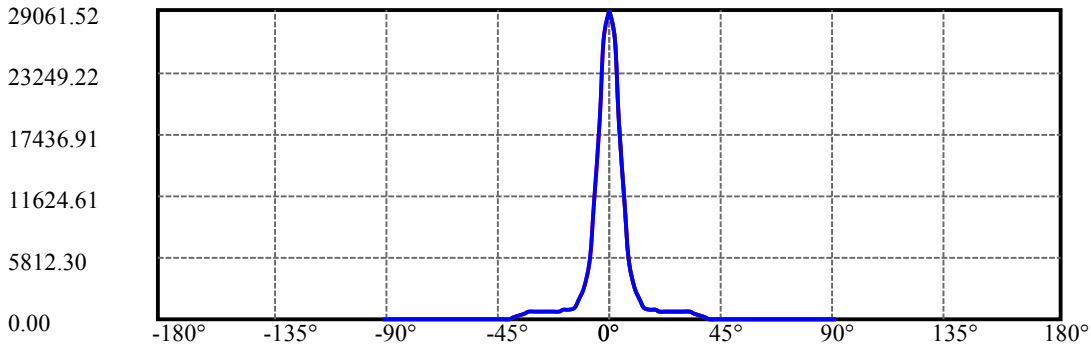
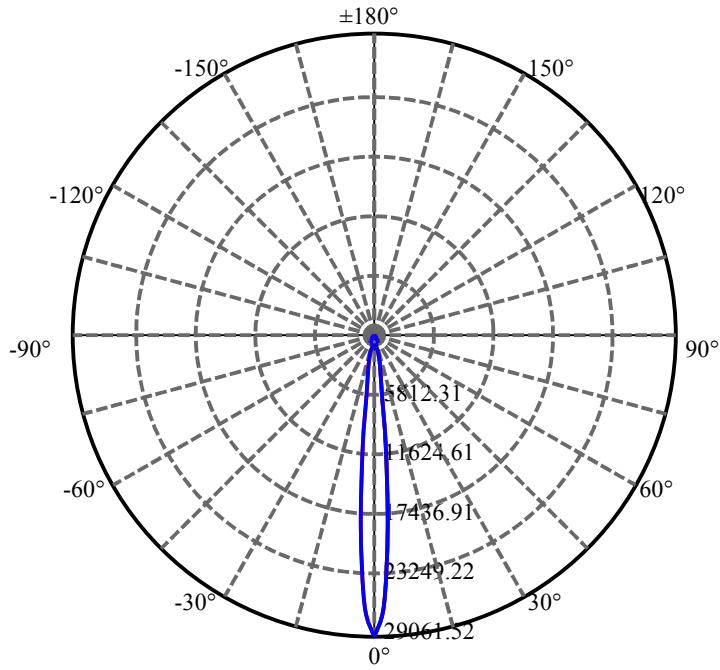
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	8.293	1.765	1966.22	.080%	99.406%
78.0	8.341	1.789	1968.009	.081%	99.497%
80.0	8.424	1.819	1969.828	.083%	99.589%
82.0	8.369	1.817	1971.646	.083%	99.681%
84.0	8.320	1.815	1973.461	.082%	99.772%
86.0	8.293	1.814	1975.275	.082%	99.864%
88.0	8.169	1.790	1977.065	.081%	99.955%
90.0	8.176	0.897	1977.962	.041%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	1708.84	77.60%	86.39%
0-40	1935.70	87.91%	97.86%
0-60	1952.60	88.67%	98.72%
0-90	1977.07	89.78%	99.95%
0-120	1977.07	89.78%	99.95%
0-180	1977.96	89.83%	100.00%
60-90	26.09	1.18%	1.32%
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%
0-26.52	1582.37	71.86%	80.00%

ZONAL LUMEN SUMMARY

0-10	1050.53
10-20	316.25
20-30	342.06
30-40	226.86
40-50	8.95
50-60	7.95
60-70	8.38
70-80	8.84
80-90	7.24
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



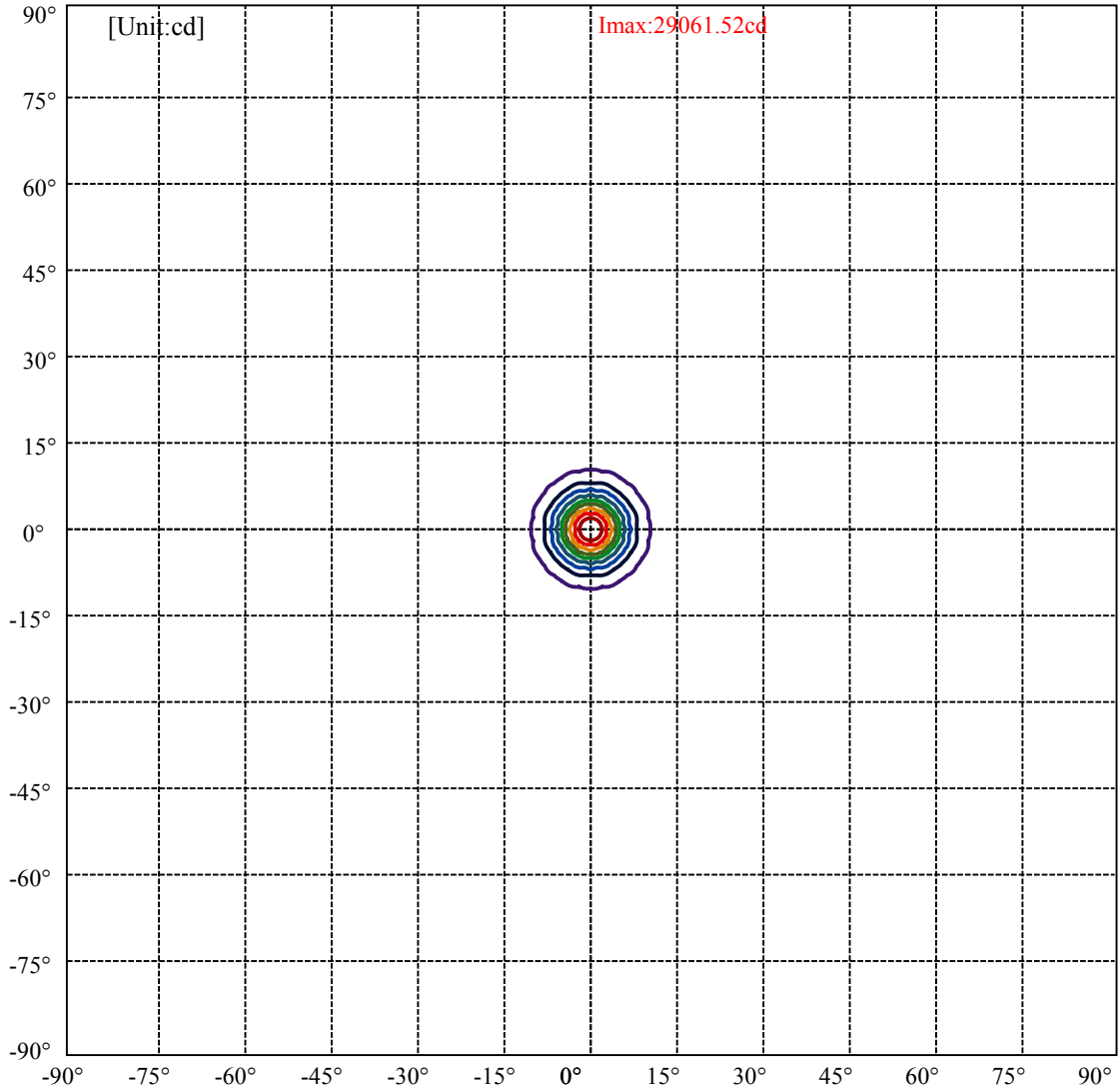
C0(Max): —————

C0/C180: —————

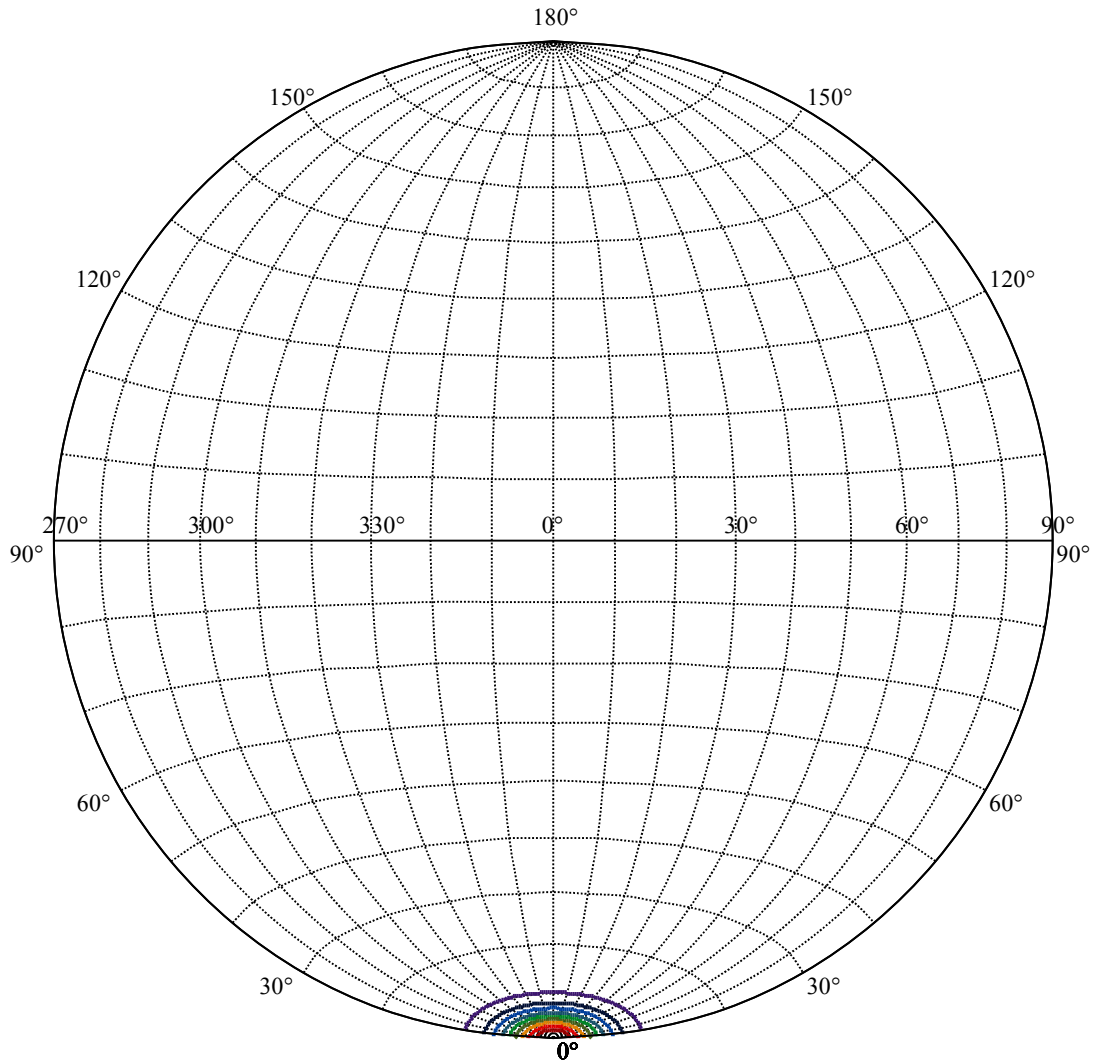
C90/C270: —————

Field angle(10%Imax):C0/180Left:10.2 Right:10.2
:C90/270Left:10.2 Right:10.2

Beam Angle(50%Imax):C0/180Left:5.0 Right:5.0
:C90/270Left:5.0 Right:5.0



(10%Imax) 2906.15	—
(20%Imax) 5812.3	—
(30%Imax) 8718.46	—
(40%Imax) 11624.6	—
(50%Imax) 14530.8	—
(60%Imax) 17436.9	—
(70%Imax) 20343.1	—
(80%Imax) 23249.2	—
(90%Imax) 26155.4	—



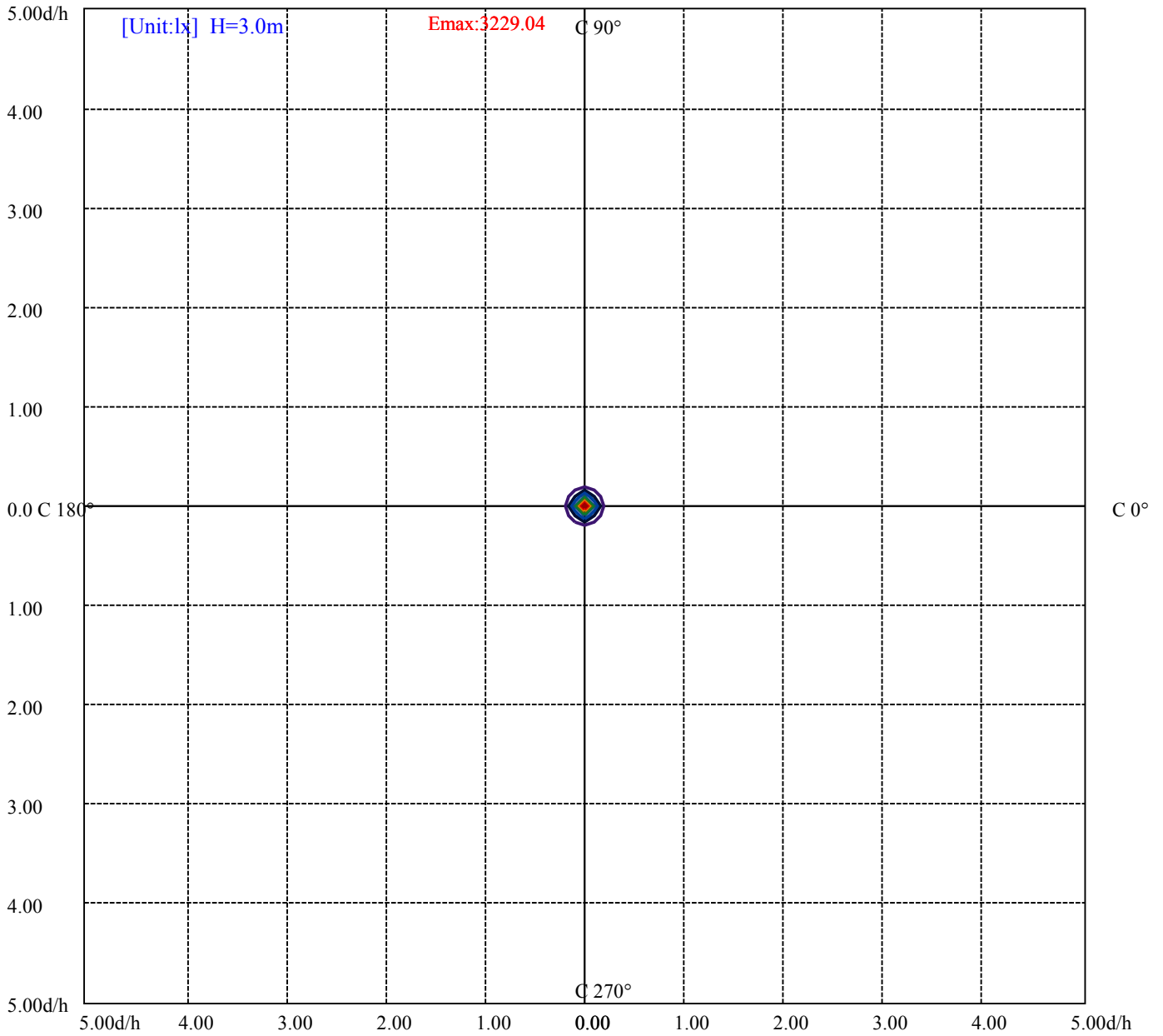
House

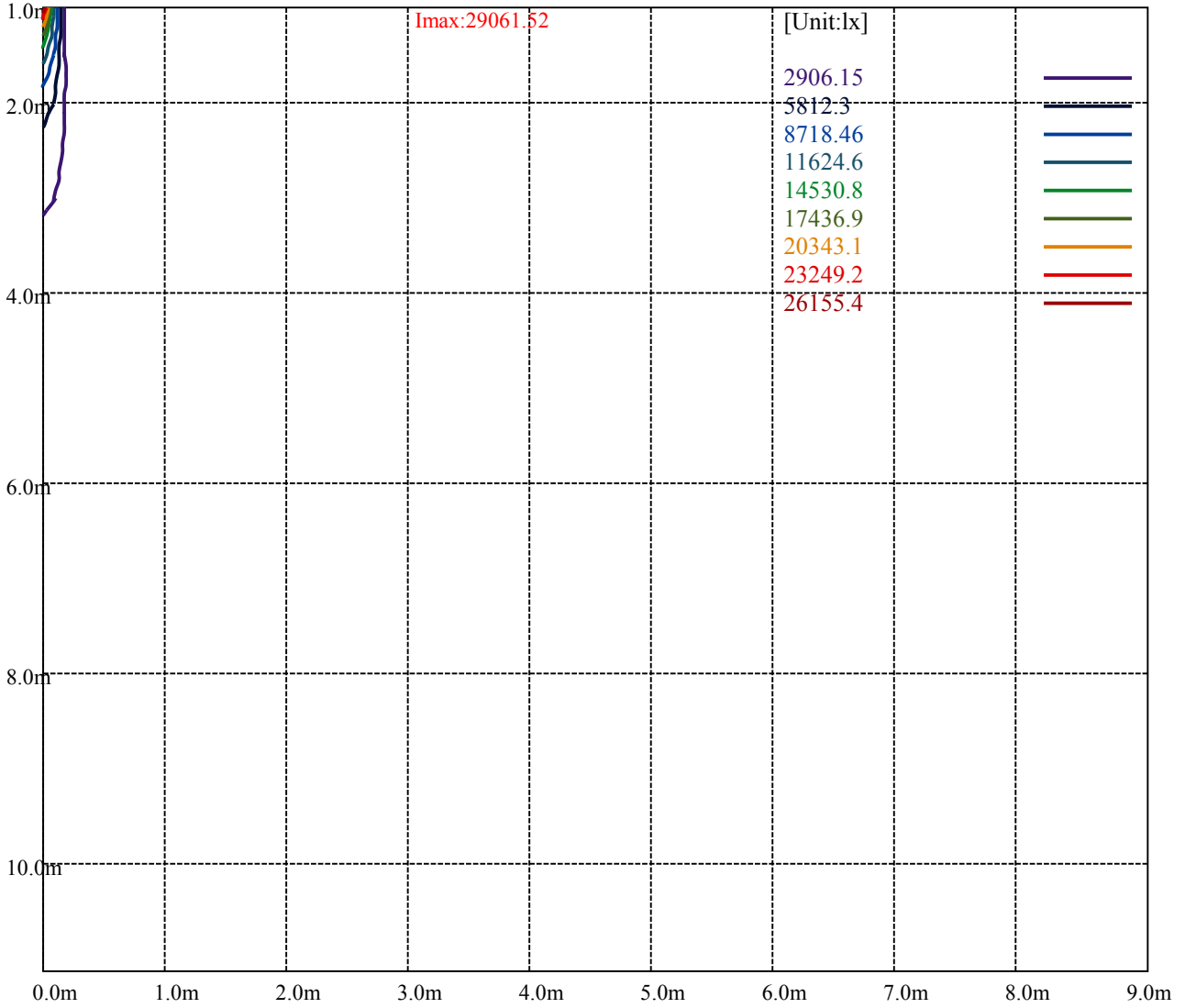
[Unit:cd]

Road

Imax:29061.52

(10%Imax) 2906.15	—
(20%Imax) 5812.3	—
(30%Imax) 8718.46	—
(40%Imax) 11624.6	—
(50%Imax) 14530.8	—
(60%Imax) 17436.9	—
(70%Imax) 20343.1	—
(80%Imax) 23249.2	—
(90%Imax) 26155.4	—





Luminance Table

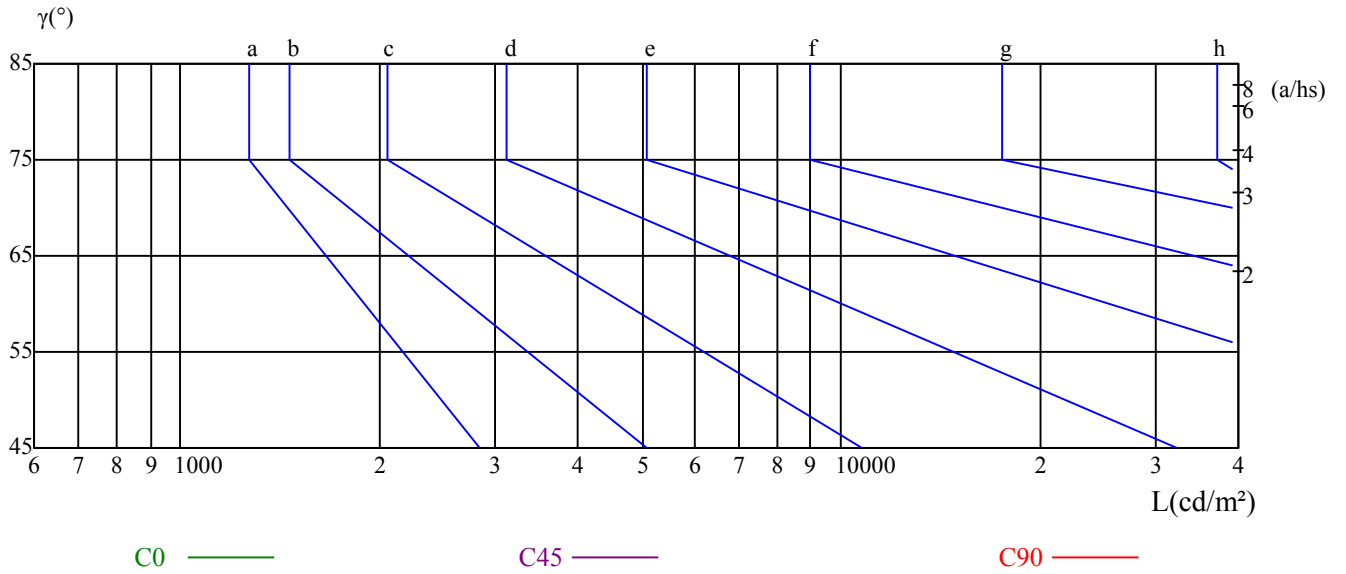
γ	45	50	55	60	65	70	75	80	85
C0	0	0	0	0	0	0	0	0	0
C45	0	0	0	0	0	0	0	0	0
C90	0	0	0	0	0	0	0	0	0

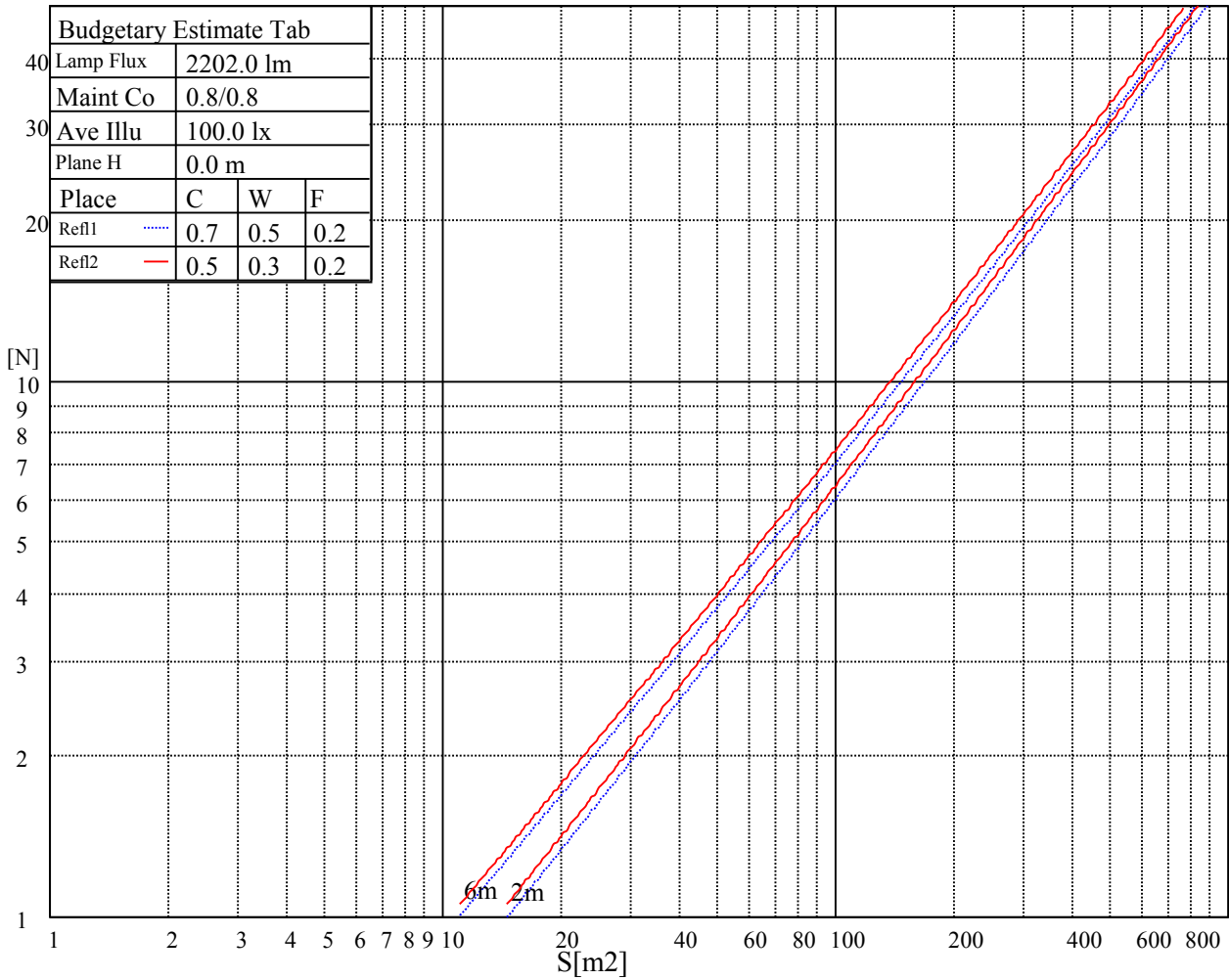
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

Glare Table

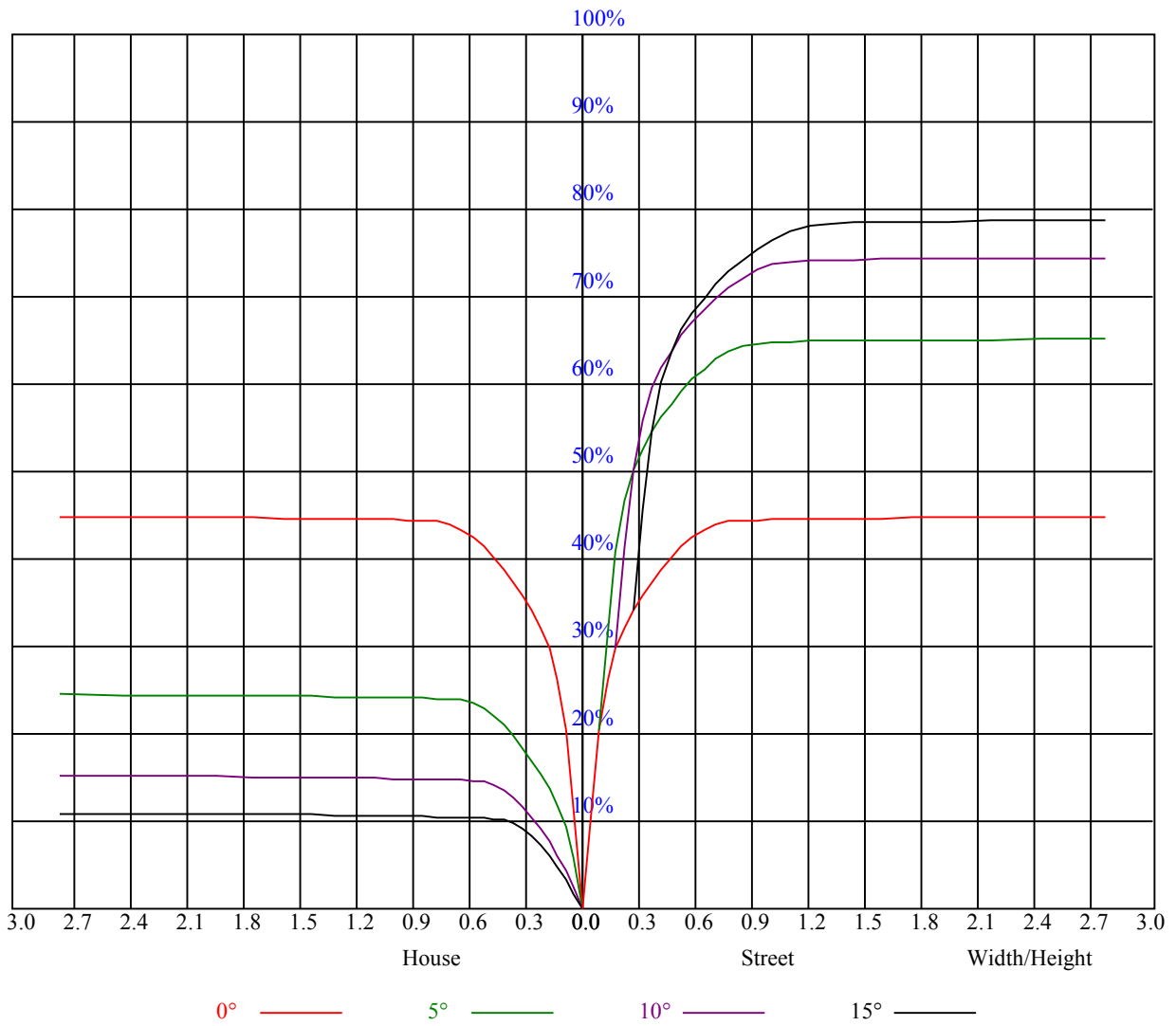
Glare	Quality	Service Values Illuminance(lx)							
1.15	A	2000	1000	500	<=300				
1.5	B		2000	1000	500	<=300			
1.85	C			2000	1000	500	<=300		
2.2	D				2000	1000	500	<=300	
2.55	E					2000	1000	500	<=300
		a	b	c	d	e	f	g	h

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	1.08	1.08	1.08	1.06	1.06	1.06	1.01	1.01	1.01	0.97	0.97	0.97	0.93	0.93	0.93	0.91
1	1.01	0.99	0.97	0.99	0.97	0.95	0.95	0.94	0.92	0.92	0.91	0.89	0.89	0.88	0.87	0.85
2	0.96	0.93	0.90	0.94	0.92	0.89	0.92	0.89	0.87	0.89	0.87	0.85	0.86	0.85	0.84	0.82
3	0.92	0.88	0.85	0.91	0.87	0.85	0.88	0.86	0.83	0.86	0.84	0.82	0.84	0.82	0.81	0.80
4	0.88	0.84	0.81	0.87	0.84	0.81	0.85	0.82	0.80	0.84	0.81	0.79	0.82	0.80	0.78	0.77
5	0.85	0.81	0.78	0.84	0.81	0.78	0.83	0.80	0.77	0.81	0.79	0.76	0.80	0.78	0.76	0.75
6	0.82	0.78	0.75	0.82	0.78	0.75	0.80	0.77	0.75	0.79	0.76	0.74	0.78	0.76	0.74	0.73
7	0.80	0.76	0.73	0.79	0.75	0.73	0.78	0.75	0.72	0.77	0.74	0.72	0.76	0.74	0.72	0.71
8	0.77	0.74	0.71	0.77	0.73	0.71	0.76	0.73	0.71	0.75	0.72	0.70	0.75	0.72	0.70	0.69
9	0.75	0.72	0.69	0.75	0.71	0.69	0.74	0.71	0.69	0.74	0.71	0.69	0.73	0.70	0.68	0.68
10	0.74	0.70	0.67	0.73	0.70	0.67	0.73	0.69	0.67	0.72	0.69	0.67	0.72	0.69	0.67	0.66



Intensity data(cd)

C/γ(°)	0.0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0
0.0	29256.97	28376.07	21405.93	12431.74	6810.48	3540.13	1987.54	1256.94	966.79
45.0	28502.70	28343.03	23112.68	14556.91	7812.50	4167.77	2791.36	1408.34	1032.86
90.0	29124.84	26256.40	19297.27	10843.91	5752.84	3106.83	1810.25	1097.88	966.46
135.0	29361.58	26245.39	19528.51	11077.35	6276.43	3160.24	1813.01	1197.48	948.07
180.0	29256.97	24924.03	15993.88	9277.55	4678.69	2503.97	1477.71	1056.42	901.99
225.0	28502.70	22897.96	13081.40	7581.27	3877.07	2121.32	1290.52	962.39	863.89
270.0	29124.84	25992.13	18636.59	9943.19	5356.99	2857.43	1580.67	1097.27	894.12
315.0	29361.58	26476.62	18245.69	10429.88	5209.44	2755.57	1566.35	1060.17	909.04
360.0	29256.97	28376.07	21405.93	12431.74	6810.48	3540.13	1987.54	1256.94	966.79
C/γ(°)	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0
0.0	869.34	820.34	779.05	743.26	722.34	700.87	678.85	659.03	618.28
45.0	888.06	820.89	784.00	749.32	726.74	705.27	681.05	663.98	639.20
90.0	853.48	801.84	762.75	733.46	711.27	693.16	669.54	649.11	600.00
135.0	851.17	804.37	765.28	736.10	712.43	692.61	670.04	650.22	598.46
180.0	823.59	788.85	756.03	729.17	704.67	688.21	663.21	644.93	545.50
225.0	812.25	789.12	749.92	720.08	701.03	682.75	662.16	636.23	484.44
270.0	828.60	796.67	766.94	731.70	712.43	695.36	673.89	655.72	562.68
315.0	835.92	799.69	762.42	734.73	710.61	695.03	672.18	650.82	573.08
360.0	869.34	820.34	779.05	743.26	722.34	700.87	678.85	659.03	618.28
C/γ(°)	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
0.0	444.86	287.94	45.59	19.21	13.65	9.91	9.63	9.30	9.08
45.0	502.11	294.00	87.59	19.88	13.65	9.91	9.63	9.36	9.08
90.0	404.77	203.27	36.39	18.50	11.51	9.91	9.58	9.30	9.08
135.0	412.92	280.24	34.52	17.40	10.79	9.91	9.63	9.36	9.14
180.0	328.63	123.00	21.36	15.36	9.91	9.58	9.36	9.14	8.97
225.0	252.21	78.40	22.02	15.80	9.91	9.52	9.25	9.03	8.86
270.0	356.21	136.76	23.89	17.01	10.35	9.86	9.52	9.30	9.08
315.0	356.49	126.91	24.56	17.40	10.35	9.91	9.52	9.25	9.03
360.0	444.86	287.94	45.59	19.21	13.65	9.91	9.63	9.30	9.08
C/γ(°)	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
0.0	8.92	8.75	8.64	8.53	8.48	8.42	8.37	8.31	8.31
45.0	8.92	8.81	8.70	8.59	8.53	8.48	8.42	8.37	8.31
90.0	8.92	8.75	8.64	8.53	8.48	8.42	8.37	8.37	8.31
135.0	8.97	8.81	8.70	8.64	8.53	8.48	8.42	8.37	8.37
180.0	8.75	8.64	8.59	8.53	8.42	8.42	8.37	8.31	8.31
225.0	8.70	8.59	8.53	8.42	8.37	8.31	8.31	8.31	8.26
270.0	8.86	8.75	8.64	8.53	8.48	8.42	8.37	8.31	8.31
315.0	8.86	8.75	8.59	8.53	8.42	8.42	8.37	8.31	8.26
360.0	8.92	8.75	8.64	8.53	8.48	8.42	8.37	8.31	8.31
C/γ(°)	72.0	74.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0
0.0	8.26	8.26	8.31	8.26	8.31	8.31	8.37	8.37	8.20
45.0	8.31	8.31	8.31	8.26	8.31	8.31	8.31	8.26	8.15
90.0	8.26	8.26	8.31	8.48	8.70	8.64	8.48	8.42	8.20
135.0	8.31	8.31	8.31	8.42	8.70	8.53	8.37	8.37	8.20
180.0	8.26	8.26	8.20	8.26	8.37	8.26	8.26	8.26	8.15
225.0	8.26	8.31	8.42	8.59	8.53	8.37	8.26	8.15	8.15
270.0	8.26	8.26	8.26	8.26	8.26	8.31	8.26	8.26	8.15
315.0	8.26	8.26	8.20	8.20	8.20	8.20	8.26	8.26	8.15
360.0	8.26	8.26	8.31	8.26	8.31	8.31	8.37	8.37	8.20

Intensity data(cd)

C/γ(°)	90.0
0.0	8.15
45.0	8.20
90.0	8.15
135.0	8.15
180.0	8.20
225.0	8.20
270.0	8.20
315.0	8.15
360.0	8.15