
Nata

LumCAT: 1536-A	
Luminaire: 92.70.046.00	
Report No: NT2017083005	Voltage(V): 0.0000
Test No: GC2017083005	Current(A): 0.0000
LampCAT: CXA1512	Power (W): 0.0000
Lamp flux(lm): 945.0	PF: 0.0000
Number of Lamps: 1	Ballast type: DC
Length(mm): 25	Width(mm): 25
Phm Type: C	Height(mm): 0

Photometric Results

Lumens(lm): 800.18
Efficiency(%): 84.67%
Lumens(lm)/Power(W): 0.00
Central intensity(cd): 797.726
Maximum intensity(cd): 797.726
Angle of maximum intensity: C=0.0 γ =0.0
Beam Angle(50%Imax): [C0/180]Total=61.5
 [C90/270]Total=61.5
Field angle(10%Imax): [C0/180]Total=89.3
 [C90/270]Total=89.3
Maximum s/h(1/2): C0_180=0.94 C90_270=0.94
Maximum s/h(1/4): C0_180=0.92 C90_270=0.92
Up flux rate of lamp(%): 0.00%
Down flux rate of lamp(%): 84.67%
Up flux rate of LUM(%): - -
Down flux rate of LUM(%): 100.00%
CIE Type : Direct lighting
Output flux ratio in π solid angle : 97.072%

$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
0.0	797.726	0.000	0	.000%	.000%
2.0	797.506	3.053	3.053	.323%	.382%
4.0	792.661	9.126	12.179	.966%	1.522%
6.0	786.852	15.096	27.275	1.597%	3.409%
8.0	777.032	20.899	48.174	2.212%	6.020%
10.0	764.795	26.449	74.623	2.799%	9.326%
12.0	747.859	31.650	106.273	3.349%	13.281%
14.0	726.270	36.363	142.636	3.848%	17.826%
16.0	701.047	40.509	183.145	4.287%	22.888%
18.0	670.030	43.957	227.102	4.652%	28.381%
20.0	635.943	46.624	273.726	4.934%	34.208%
22.0	599.970	48.568	322.294	5.139%	40.278%
24.0	560.357	49.716	372.01	5.261%	46.491%
26.0	516.567	49.908	421.918	5.281%	52.728%
28.0	467.257	48.978	470.896	5.183%	58.849%
30.0	419.117	47.122	518.018	4.986%	64.738%
32.0	365.595	44.318	562.336	4.690%	70.277%
34.0	314.104	40.594	602.93	4.296%	75.350%
36.0	262.289	36.253	639.183	3.836%	79.880%
38.0	213.171	31.377	670.56	3.320%	83.802%
40.0	166.484	26.200	696.76	2.772%	87.076%
42.0	124.558	20.938	717.698	2.216%	89.692%
44.0	88.600	15.941	733.639	1.687%	91.685%
46.0	61.188	11.614	745.253	1.229%	93.136%
48.0	44.258	8.457	753.71	.895%	94.193%
50.0	33.247	6.414	760.124	.679%	94.995%
52.0	25.175	4.979	765.103	.527%	95.617%
54.0	18.265	3.804	768.907	.403%	96.092%
56.0	14.652	2.957	771.864	.313%	96.462%
58.0	12.980	2.541	774.405	.269%	96.779%
60.0	11.892	2.338	776.743	.247%	97.071%
62.0	10.942	2.190	778.933	.232%	97.345%
64.0	10.302	2.076	781.009	.220%	97.605%
66.0	9.759	1.994	783.002	.211%	97.854%
68.0	9.284	1.922	784.924	.203%	98.094%
70.0	8.850	1.856	786.781	.196%	98.326%
72.0	8.327	1.781	788.562	.188%	98.549%
74.0	7.859	1.697	790.259	.180%	98.761%

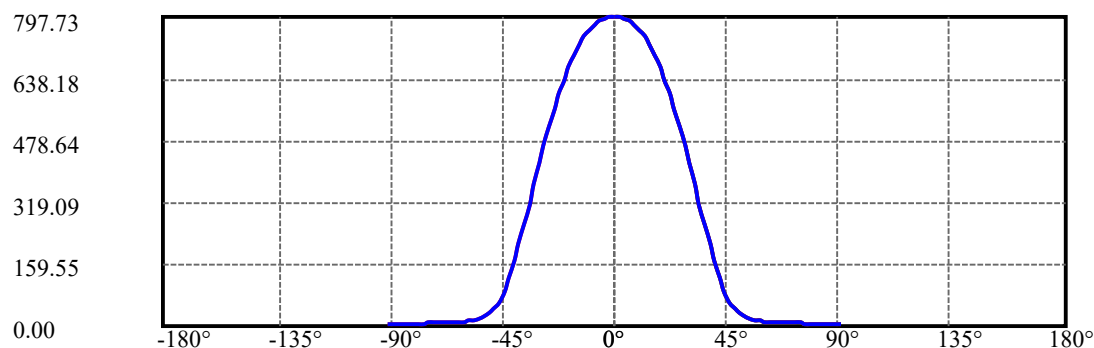
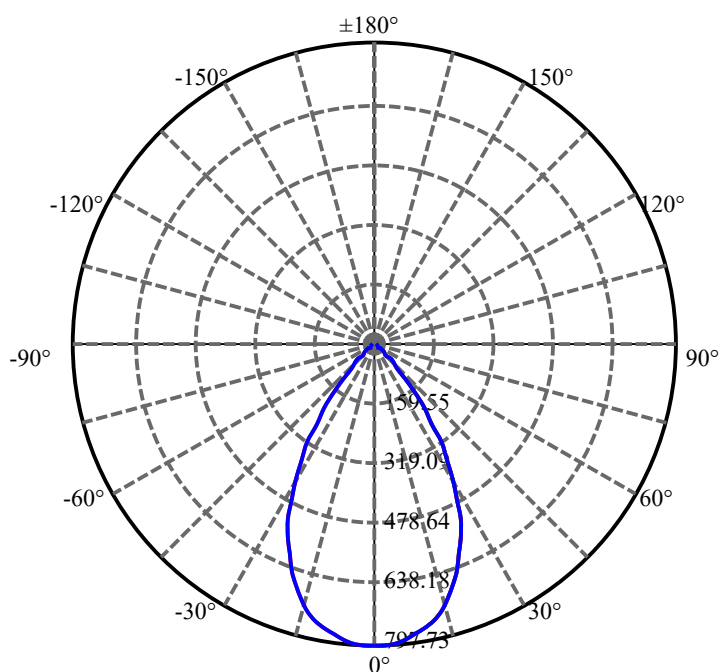
$\gamma(^{\circ})$	Average I(cd)	Zonal F(lm)	Sum F(lm)	Eff Flux(%)	Eff Sum(%)
76.0	7.419	1.618	791.878	.171%	98.963%
78.0	6.985	1.539	793.417	.163%	99.155%
80.0	6.538	1.456	794.872	.154%	99.337%
82.0	6.077	1.366	796.239	.145%	99.508%
84.0	5.547	1.265	797.504	.134%	99.666%
86.0	4.604	1.109	798.613	.117%	99.805%
88.0	3.283	0.864	799.476	.091%	99.912%
90.0	3.104	0.700	800.176	.074%	100.000%

ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-30	518.02	54.82%	64.74%
0-40	696.76	73.73%	87.08%
0-60	776.74	82.20%	97.07%
0-90	799.48	84.60%	99.91%
0-120	799.48	84.60%	99.91%
0-180	800.18	84.67%	100.00%
60-90	25.07	2.65%	3.13%
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%
0-36.06	640.14	67.74%	80.00%

ZONAL LUMEN SUMMARY

0-10	74.62
10-20	199.10
20-30	244.29
30-40	178.74
40-50	63.36
50-60	16.62
60-70	10.04
70-80	8.09
80-90	4.60
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: _____

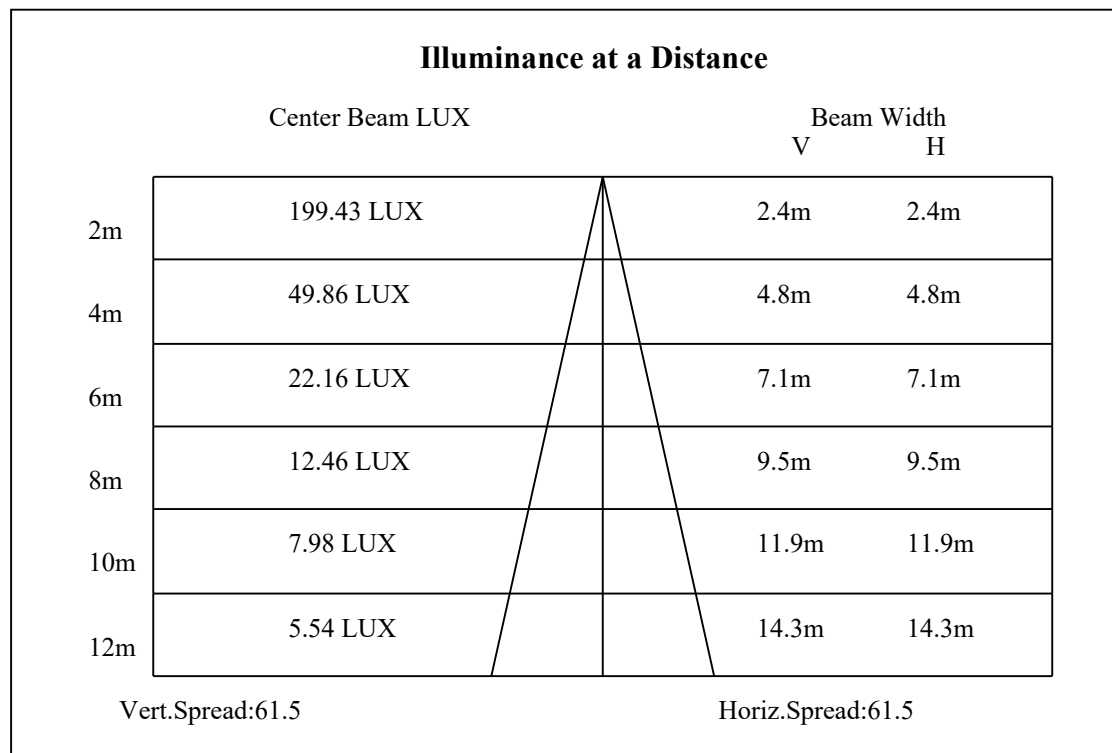
C90/C270: _____

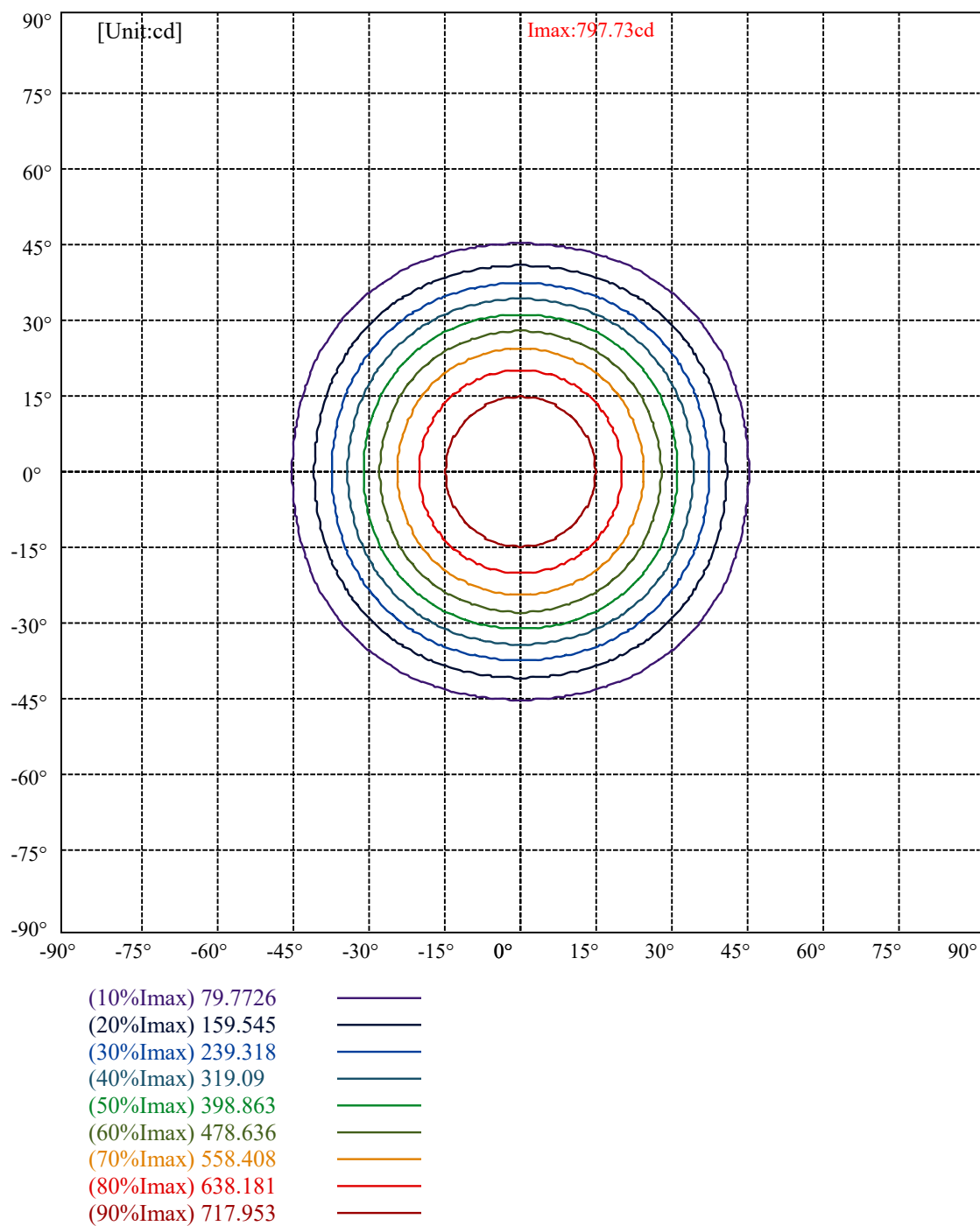
Field angle(10%Imax):C0/180Left:44.6 Right:44.6

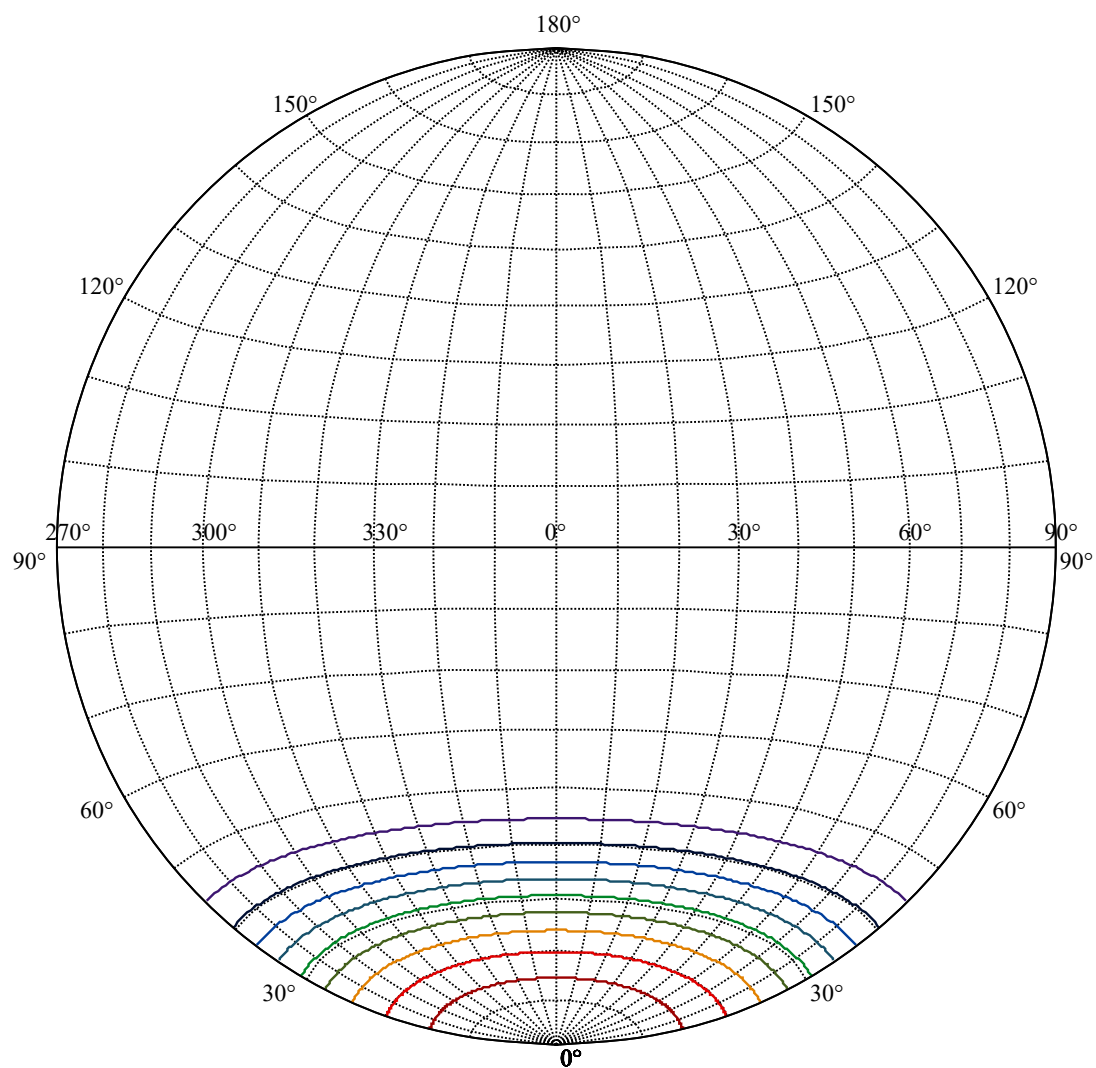
:C90/270Left:44.6 Right:44.6

Beam Angle(50%Imax):C0/180Left:30.8 Right:30.8

:C90/270Left:30.8 Right:30.8







House

[Unit:cd]

Road

Imax:797.73

(10%Imax) 79.7726

(20%Imax) 159.545

(30%Imax) 239.318

(40%Imax) 319.09

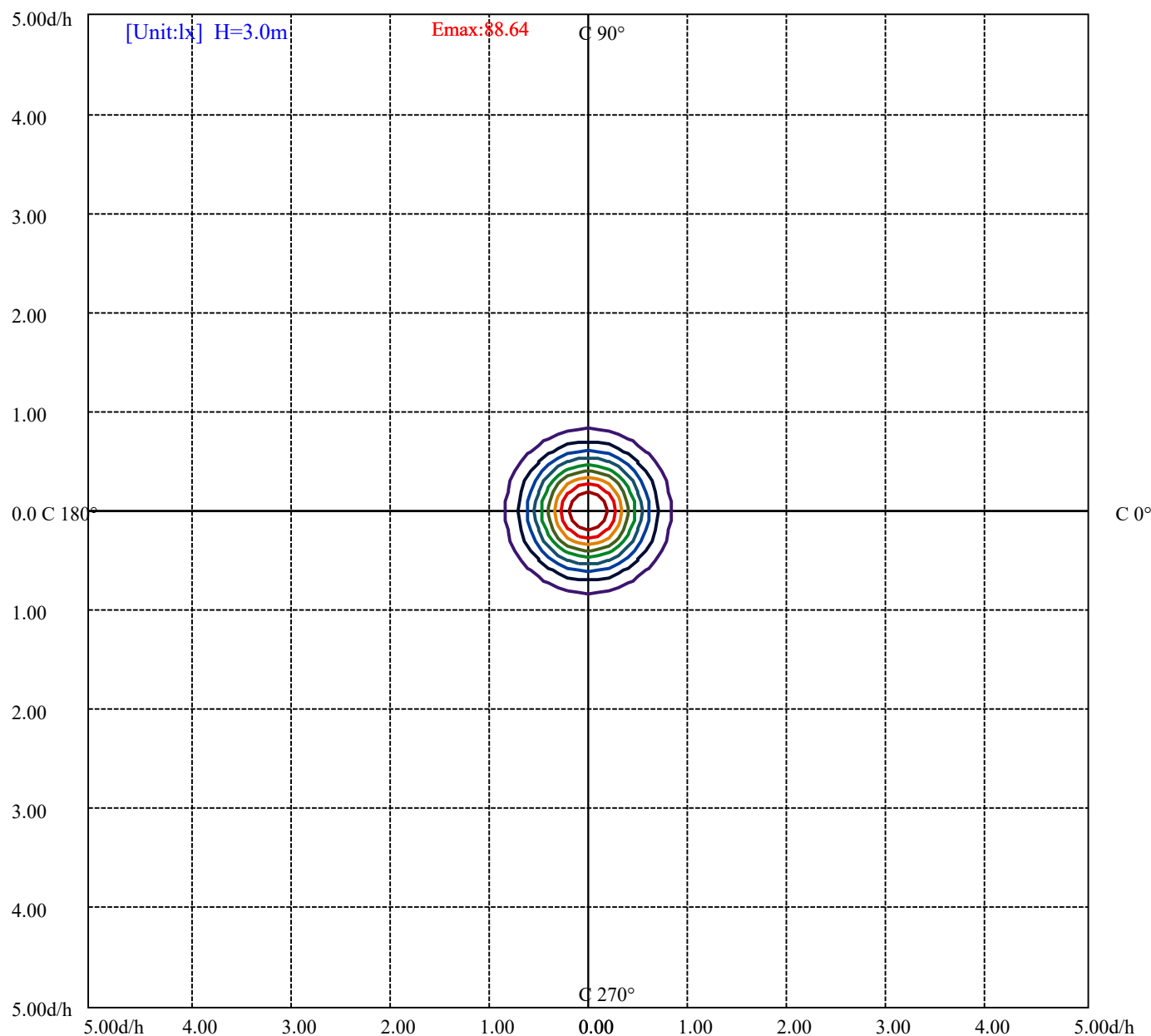
(50%Imax) 398.863

(60%Imax) 478.636

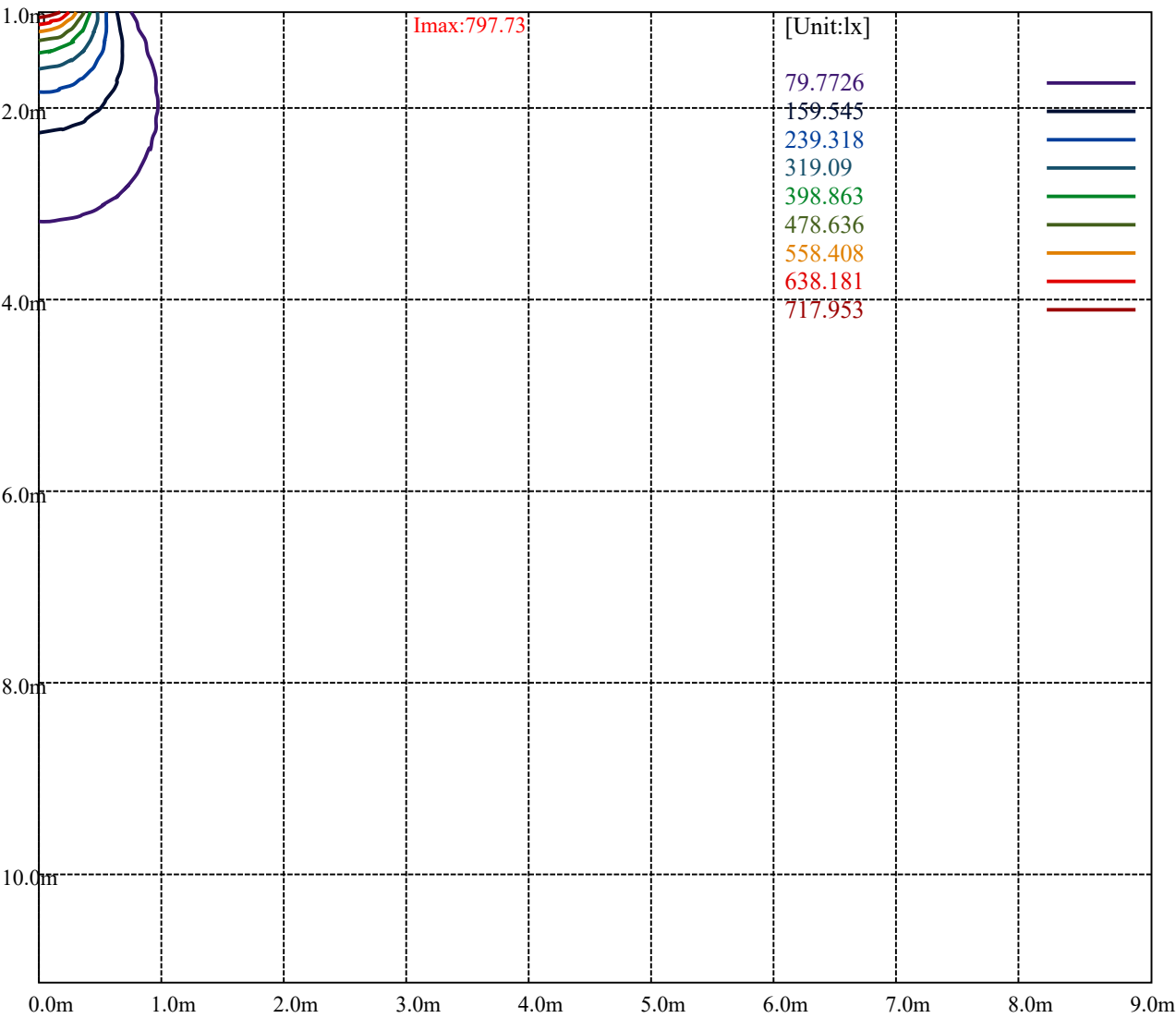
(70%Imax) 558.408

(80%Imax) 638.181

(90%Imax) 717.953



(10%Emax) 8.863622	—
(20%Emax) 17.72722	—
(30%Emax) 26.59089	—
(40%Emax) 35.45444	—
(50%Emax) 44.31811	—
(60%Emax) 53.18178	—
(70%Emax) 62.04533	—
(80%Emax) 70.909	—
(90%Emax) 79.77255	—



Luminance Table

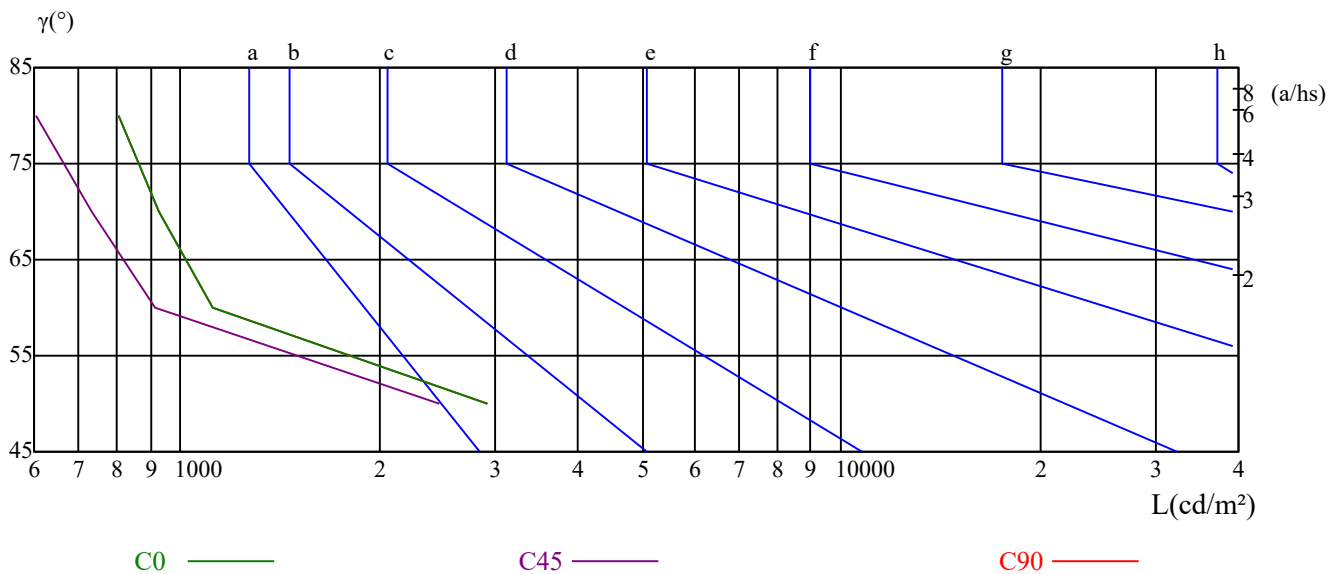
γ	45	50	55	60	65	70	75	80	85
C0	0	2915	0	1119	0	929	0	803	0
C45	0	2468	0	918	0	734	0	606	0
C90	0	2915	0	1119	0	929	0	803	0

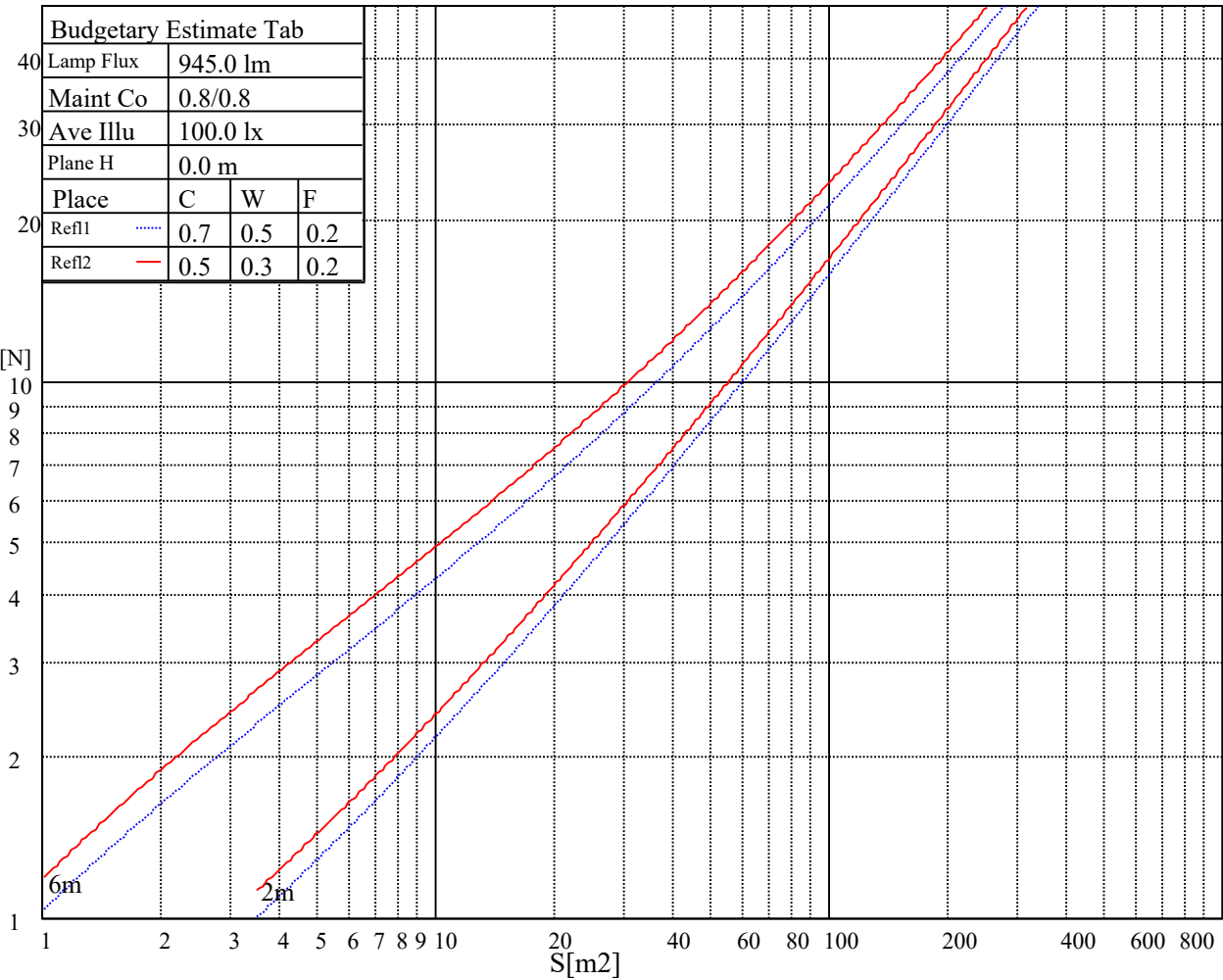
L(Hor)(65)	L(Ver)(65)	L45(65)	L(Hor)(75)	L(Ver)(75)	L45(75)	L(Hor)(85)	L(Ver)(85)	L45(85)
0	0	0	0	0	0	0	0	0

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





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	1.01	1.01	1.01	0.98	0.98	0.98	0.94	0.94	0.94	0.90	0.90	0.90	0.86	0.86	0.86	0.85
1	0.93	0.91	0.88	0.91	0.89	0.87	0.88	0.86	0.84	0.84	0.83	0.82	0.82	0.80	0.79	0.78
2	0.86	0.82	0.79	0.84	0.81	0.78	0.82	0.79	0.76	0.79	0.77	0.75	0.77	0.75	0.73	0.72
3	0.80	0.75	0.71	0.78	0.74	0.71	0.76	0.73	0.70	0.74	0.71	0.69	0.72	0.70	0.67	0.66
4	0.74	0.69	0.65	0.73	0.68	0.65	0.71	0.67	0.64	0.69	0.66	0.63	0.68	0.65	0.62	0.61
5	0.69	0.64	0.60	0.68	0.63	0.59	0.66	0.62	0.59	0.65	0.61	0.58	0.64	0.60	0.58	0.56
6	0.64	0.59	0.55	0.64	0.59	0.55	0.62	0.58	0.54	0.61	0.57	0.54	0.60	0.56	0.54	0.52
7	0.60	0.55	0.51	0.60	0.55	0.51	0.59	0.54	0.51	0.57	0.53	0.50	0.57	0.53	0.50	0.49
8	0.57	0.51	0.48	0.56	0.51	0.47	0.55	0.50	0.47	0.54	0.50	0.47	0.53	0.50	0.47	0.46
9	0.53	0.48	0.44	0.53	0.48	0.44	0.52	0.47	0.44	0.51	0.47	0.44	0.50	0.47	0.44	0.43
10	0.50	0.45	0.42	0.50	0.45	0.42	0.49	0.45	0.41	0.48	0.44	0.41	0.48	0.44	0.41	0.40

Nata 1536-E

Intensity data(cd)

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C/γ(°)	0.0	2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0
0.0	796.28	796.28	790.83	782.90	771.29	755.15	737.98	714.08	687.05
45.0	797.38	794.68	785.71	775.25	761.98	745.30	722.06	693.05	665.52
90.0	796.50	794.02	785.10	775.91	759.34	740.95	720.47	693.88	665.30
135.0	800.74	796.39	792.32	784.72	775.91	763.14	745.68	725.48	699.05
180.0	796.28	794.68	793.36	786.70	779.60	772.17	760.38	744.47	720.74
225.0	797.38	799.91	798.04	795.40	790.17	781.69	770.07	750.97	734.40
270.0	796.50	801.51	800.19	800.80	794.57	784.66	770.73	753.72	728.34
315.0	800.74	802.56	795.73	793.14	783.40	775.30	755.48	734.51	707.97
360.0	796.28	796.28	790.83	782.90	771.29	755.15	737.98	714.08	687.05
C/γ(°)	18.0	20.0	22.0	24.0	26.0	28.0	30.0	32.0	34.0
0.0	651.59	621.15	582.88	541.42	497.21	445.35	396.41	345.64	291.74
45.0	623.24	586.52	547.70	503.60	455.04	403.12	357.10	302.87	254.75
90.0	625.66	589.76	545.55	503.27	455.10	404.88	349.33	297.41	249.96
135.0	671.91	631.50	596.21	558.77	512.85	462.80	417.44	362.77	310.85
180.0	698.28	666.73	632.76	598.57	557.67	510.98	466.77	410.94	355.55
225.0	710.89	682.09	649.72	612.45	572.92	529.64	483.17	432.41	380.94
270.0	703.95	670.92	640.14	601.33	560.75	512.35	464.73	407.64	357.98
315.0	674.72	638.87	604.79	563.45	521.00	468.92	417.99	365.08	311.07
360.0	651.59	621.15	582.88	541.42	497.21	445.35	396.41	345.64	291.74
C/γ(°)	36.0	38.0	40.0	42.0	44.0	46.0	48.0	50.0	52.0
0.0	242.74	190.94	143.75	101.19	70.20	45.31	33.53	25.00	15.20
45.0	203.87	159.72	117.66	79.12	51.75	36.83	29.35	19.49	14.87
90.0	200.35	158.51	114.41	80.05	55.77	40.74	30.50	23.51	18.22
135.0	260.75	212.02	168.69	127.24	89.03	57.26	43.71	35.84	26.10
180.0	302.04	252.16	198.04	155.15	109.73	77.90	52.91	41.07	33.86
225.0	324.45	276.05	224.19	177.50	133.68	90.57	62.49	45.92	37.66
270.0	304.63	246.16	203.43	152.12	112.98	84.46	61.83	44.87	33.86
315.0	259.48	209.82	161.70	124.10	85.67	56.43	39.75	30.28	21.64
360.0	242.74	190.94	143.75	101.19	70.20	45.31	33.53	25.00	15.20
C/γ(°)	54.0	56.0	58.0	60.0	62.0	64.0	66.0	68.0	70.0
0.0	12.17	10.74	9.52	8.53	7.82	7.32	6.94	6.72	6.28
45.0	12.83	11.45	10.46	9.52	8.75	8.31	7.98	7.60	7.21
90.0	16.02	14.59	13.60	12.94	12.28	11.84	11.45	11.12	10.68
135.0	18.94	16.30	15.31	14.70	13.76	13.27	12.88	12.33	11.89
180.0	19.77	16.08	14.15	13.32	12.33	11.40	10.52	9.80	9.19
225.0	26.87	16.74	14.04	12.55	11.45	10.74	9.97	9.47	9.08
270.0	24.94	18.99	15.91	13.87	12.44	11.45	10.68	10.02	9.52
315.0	14.59	12.33	10.85	9.69	8.70	8.09	7.65	7.21	6.94
360.0	12.17	10.74	9.52	8.53	7.82	7.32	6.94	6.72	6.28
C/γ(°)	72.0	74.0	76.0	78.0	80.0	82.0	84.0	86.0	88.0
0.0	5.89	5.67	5.40	5.18	5.01	4.84	4.57	4.35	3.03
45.0	6.88	6.55	6.17	6.00	5.45	5.07	4.62	3.52	3.08
90.0	9.91	9.25	8.42	7.32	6.44	5.67	5.12	3.30	3.03
135.0	11.23	10.46	9.97	9.25	8.75	7.98	7.10	6.22	3.30
180.0	8.70	8.31	7.93	7.65	7.16	6.66	6.44	4.73	3.41
225.0	8.64	8.20	7.87	7.65	7.49	7.32	6.77	5.89	3.74
270.0	8.92	8.31	7.76	7.27	6.66	6.06	5.18	4.51	3.47
315.0	6.44	6.11	5.84	5.56	5.34	5.01	4.57	4.29	3.19
360.0	5.89	5.67	5.40	5.18	5.01	4.84	4.57	4.35	3.03

Intensity data(cd)

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C/ γ (°)	90.0
0.0	3.03
45.0	3.03
90.0	2.97
135.0	2.97
180.0	3.30
225.0	3.41
270.0	3.08
315.0	3.03
360.0	3.03