

# Luminaire Property

Luminaire: C510 3W 3000K

Report NO.:

Test NO.: HLR180309

Lamp:

Sum Lumens: 177.49 lm

Number of Lamps: 1

Diameter: 85 mm

Length: mm

Photometric Type: Type C

Voltage: 110.2 V

Current: 0.051 A

Power: 3.3 W

Power Factor: 0.577

Ballast Type: EPD300mA

Width: 85 mm

Height: mm

Remark:

# Photometric Results

Lumens: 177.49 lm

Effective luminous flux: 177.49 lm

Efficiency: 53.7848 lm/W

Central Intensity: 55.763cd

Maximum Intensity: 57.768cd

Beam Angle(10%): Left: -57.3 Right:57.3

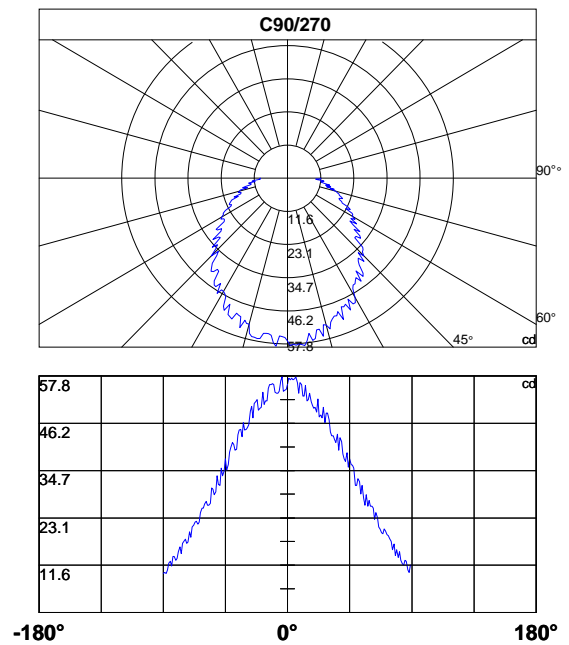
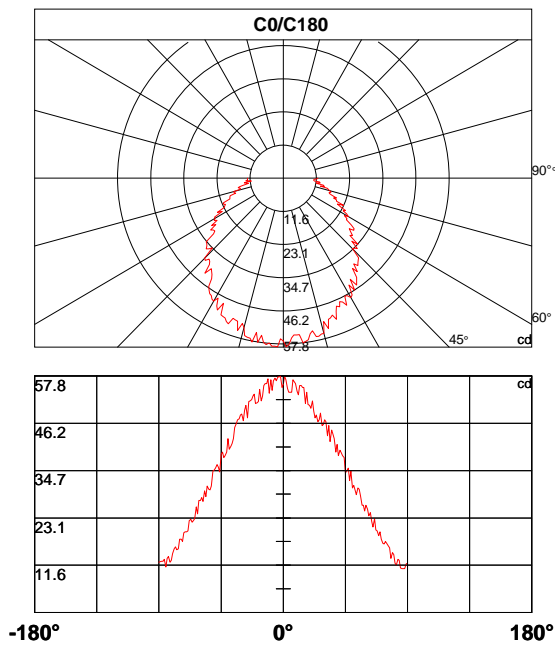
Angle of maximum intensity: C:0.0 G:1.0

Half Peak Side Angle(50%): Left: -57.3 Right:55.8

Light Out Rate(LOR) : 100.00%

Up Flux Rate: 0.0%

Down Flux Rate: 100.0%



## Photometric Data Table [cd]

C\G	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0
0.0	55.8	57.8	56.8	54.8	53.8	53.8	53.8	56.8	56.4	55.9
45.0	55.8	57.3	56.8	57.3	56.8	57.1	57.6	56.2	53.6	56.2
90.0	55.8	57.3	56.8	57.3	56.8	57.1	57.6	56.2	53.6	56.2
135.0	55.8	55.0	57.8	57.6	57.6	56.6	57.3	56.6	54.3	56.8
180.0	55.8	55.0	57.8	57.6	57.6	56.6	57.3	56.6	54.3	56.8
225.0	55.8	54.5	54.3	54.1	57.6	56.6	54.1	53.6	53.6	53.8
270.0	55.8	54.5	54.3	54.1	57.6	56.6	54.1	53.6	53.6	53.8
315.0	55.8	57.8	56.8	54.8	53.8	53.8	53.8	56.8	56.4	55.9
360.0	55.8	57.8	56.8	54.8	53.8	53.8	53.8	56.8	56.4	55.9

C\G	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0	18.0	19.0
0.0	54.1	53.2	55.5	55.5	55.0	55.0	51.1	53.8	50.8	50.6
45.0	55.7	52.9	52.9	55.5	51.7	52.0	53.6	51.5	50.6	49.9
90.0	55.7	52.9	52.9	55.5	51.7	52.0	53.6	51.5	50.6	49.9
135.0	53.6	57.1	55.9	55.9	55.5	52.9	51.7	54.5	51.5	51.3
180.0	53.6	57.1	55.9	55.9	55.5	52.9	51.7	54.5	51.5	51.3
225.0	55.7	55.9	55.7	55.7	54.8	51.7	51.7	50.8	53.8	50.2
270.0	55.7	55.9	55.7	55.7	54.8	51.7	51.7	50.8	53.8	50.2
315.0	54.1	53.2	55.5	55.5	55.0	55.0	51.1	53.8	50.8	50.6
360.0	54.1	53.2	55.5	55.5	55.0	55.0	51.1	53.8	50.8	50.6

C\G	20.0	21.0	22.0	23.0	24.0	25.0	26.0	27.0	28.0	29.0
0.0	49.9	51.7	49.2	47.6	48.3	46.6	47.1	48.7	45.7	46.0
45.0	50.2	49.0	52.2	47.8	48.3	47.6	50.2	46.4	48.7	48.7
90.0	50.2	49.0	52.2	47.8	48.3	47.6	50.2	46.4	48.7	48.7
135.0	51.1	53.4	52.9	52.0	51.7	51.5	47.6	50.6	49.4	46.9
180.0	51.1	53.4	52.9	52.0	51.7	51.5	47.6	50.6	49.4	46.9
225.0	49.9	49.4	52.0	51.5	51.1	47.6	50.4	49.2	46.0	45.2
270.0	49.9	49.4	52.0	51.5	51.1	47.6	50.4	49.2	46.0	45.2
315.0	49.9	51.7	49.2	47.6	48.3	46.6	47.1	48.7	45.7	46.0
360.0	49.9	51.7	49.2	47.6	48.3	46.6	47.1	48.7	45.7	46.0

C\G	30.0	31.0	32.0	33.0	34.0	35.0	36.0	37.0	38.0	39.0
0.0	47.1	46.6	43.1	45.7	41.8	44.6	43.6	42.5	39.2	41.1
45.0	47.1	44.1	43.1	43.1	42.2	41.6	43.6	39.7	42.7	41.8
90.0	47.1	44.1	43.1	43.1	42.2	41.6	43.6	39.7	42.7	41.8
135.0	48.5	48.3	47.3	47.1	46.2	45.2	42.5	41.3	40.6	39.9
180.0	48.5	48.3	47.3	47.1	46.2	45.2	42.5	41.3	40.6	39.9
225.0	44.8	44.6	46.4	42.9	44.8	44.6	43.4	39.9	39.7	41.1
270.0	44.8	44.6	46.4	42.9	44.8	44.6	43.4	39.9	39.7	41.1
315.0	47.1	46.6	43.1	45.7	41.8	44.6	43.6	42.5	39.2	41.1
360.0	47.1	46.6	43.1	45.7	41.8	44.6	43.6	42.5	39.2	41.1

## Photometric Data Table [cd]

C\G	40.0	41.0	42.0	43.0	44.0	45.0	46.0	47.0	48.0	49.0
0.0	38.3	39.7	39.0	38.3	37.8	34.1	34.6	35.3	32.3	34.6
45.0	38.8	37.6	36.9	39.0	35.5	37.6	36.2	36.0	35.3	31.1
90.0	38.8	37.6	36.9	39.0	35.5	37.6	36.2	36.0	35.3	31.1
135.0	42.5	39.2	38.3	37.8	39.2	38.8	34.4	35.5	36.2	35.3
180.0	42.5	39.2	38.3	37.8	39.2	38.8	34.4	35.5	36.2	35.3
225.0	41.6	40.4	39.2	36.2	34.8	37.6	34.6	33.4	35.3	31.1
270.0	41.6	40.4	39.2	36.2	34.8	37.6	34.6	33.4	35.3	31.1
315.0	38.3	39.7	39.0	38.3	37.8	34.1	34.6	35.3	32.3	34.6
360.0	38.3	39.7	39.0	38.3	37.8	34.1	34.6	35.3	32.3	34.6

C\G	50.0	51.0	52.0	53.0	54.0	55.0	56.0	57.0	58.0	59.0
0.0	30.4	31.1	30.0	28.8	30.4	30.2	28.5	26.2	26.2	24.8
45.0	31.1	32.7	32.0	29.0	31.1	27.9	26.2	28.8	26.0	27.4
90.0	31.1	32.7	32.0	29.0	31.1	27.9	26.2	28.8	26.0	27.4
135.0	34.8	34.6	30.9	30.0	30.2	30.9	28.3	29.7	27.1	28.1
180.0	34.8	34.6	30.9	30.0	30.2	30.9	28.3	29.7	27.1	28.1
225.0	31.3	33.4	29.5	28.8	30.2	30.4	26.7	26.2	26.2	27.1
270.0	31.3	33.4	29.5	28.8	30.2	30.4	26.7	26.2	26.2	27.1
315.0	30.4	31.1	30.0	28.8	30.4	30.2	28.5	26.2	26.2	24.8
360.0	30.4	31.1	30.0	28.8	30.4	30.2	28.5	26.2	26.2	24.8

C\G	60.0	61.0	62.0	63.0	64.0	65.0	66.0	67.0	68.0	69.0
0.0	26.2	25.3	23.7	24.4	22.3	20.9	23.0	20.2	19.9	18.8
45.0	26.0	26.0	25.5	22.7	24.4	23.2	20.9	20.4	19.5	19.3
90.0	26.0	26.0	25.5	22.7	24.4	23.2	20.9	20.4	19.5	19.3
135.0	27.4	27.4	24.1	25.8	23.0	22.5	22.0	22.7	22.5	19.9
180.0	27.4	27.4	24.1	25.8	23.0	22.5	22.0	22.7	22.5	19.9
225.0	26.5	25.5	25.5	24.4	22.0	21.6	22.3	22.0	21.4	20.9
270.0	26.5	25.5	25.5	24.4	22.0	21.6	22.3	22.0	21.4	20.9
315.0	26.2	25.3	23.7	24.4	22.3	20.9	23.0	20.2	19.9	18.8
360.0	26.2	25.3	23.7	24.4	22.3	20.9	23.0	20.2	19.9	18.8

C\G	70.0	71.0	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0
0.0	19.7	17.9	16.9	16.7	17.4	16.9	16.3	15.8	13.2	14.6
45.0	20.4	19.9	19.0	18.8	18.1	17.4	15.3	16.7	13.9	15.3
90.0	20.4	19.9	19.0	18.8	18.1	17.4	15.3	16.7	13.9	15.3
135.0	19.7	19.7	19.5	17.4	17.9	17.9	15.5	15.3	16.0	15.5
180.0	19.7	19.7	19.5	17.4	17.9	17.9	15.5	15.3	16.0	15.5
225.0	18.4	19.7	17.2	16.9	17.9	17.4	16.9	14.4	16.0	14.9
270.0	18.4	19.7	17.2	16.9	17.9	17.4	16.9	14.4	16.0	14.9
315.0	19.7	17.9	16.9	16.7	17.4	16.9	16.3	15.8	13.2	14.6
360.0	19.7	17.9	16.9	16.7	17.4	16.9	16.3	15.8	13.2	14.6

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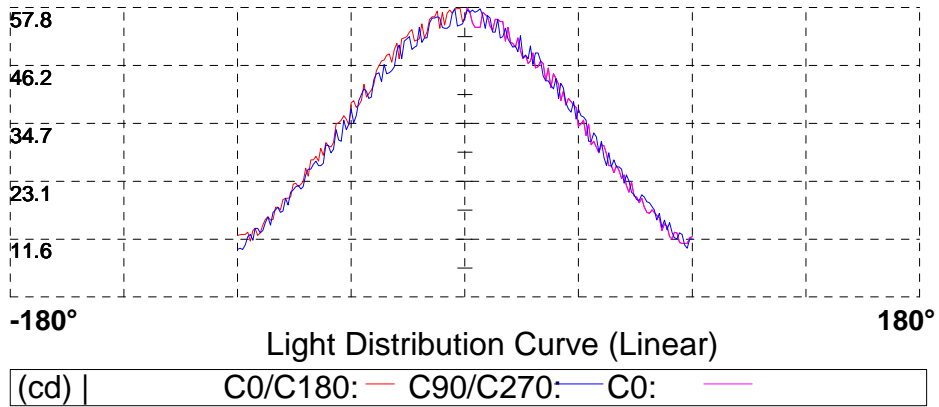
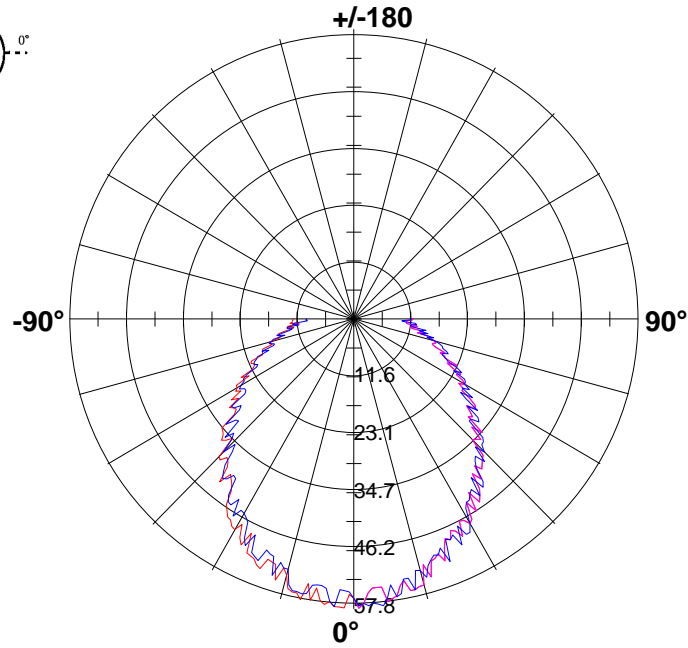
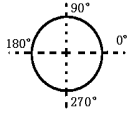
### Photometric Data Table [cd]

C\G	80.0	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	14.2	12.1	11.6	13.0	12.8	10.9	10.7	10.7	10.7	11.9
45.0	13.4	14.9	12.8	11.9	11.6	12.8	12.5	10.4	9.8	11.6
90.0	13.4	14.9	12.8	11.9	11.6	12.8	12.5	10.4	9.8	11.6
135.0	14.4	12.8	12.3	13.7	13.2	11.1	13.0	12.5	12.5	12.4
180.0	14.4	12.8	12.3	13.7	13.2	11.1	13.0	12.5	12.5	12.4
225.0	13.2	12.8	13.7	13.7	11.3	12.5	12.1	10.4	9.5	9.8
270.0	13.2	12.8	13.7	13.7	11.3	12.5	12.1	10.4	9.5	9.8
315.0	14.2	12.1	11.6	13.0	12.8	10.9	10.7	10.7	10.7	11.9
360.0	14.2	12.1	11.6	13.0	12.8	10.9	10.7	10.7	10.7	11.9

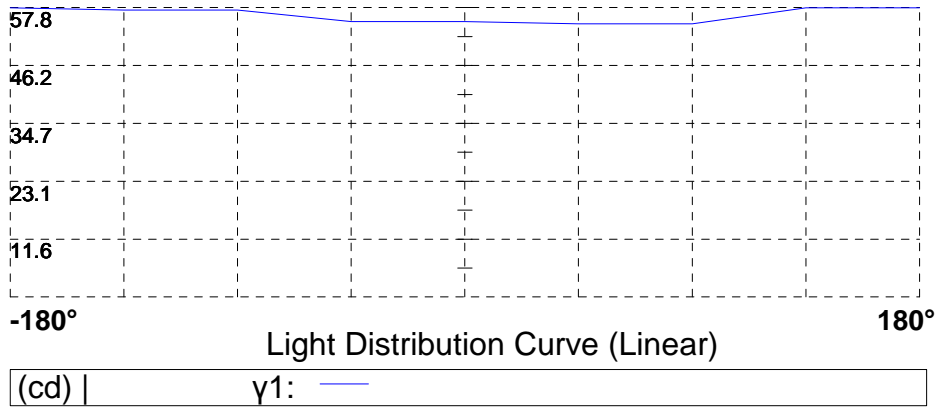
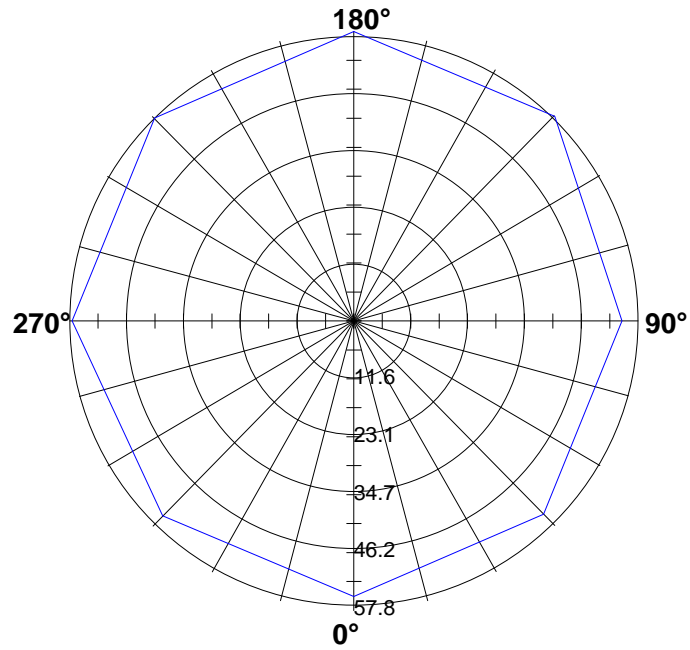
C\G	90.0
0.0	12.1
45.0	11.6
90.0	11.6
135.0	12.3
180.0	12.3
225.0	9.5
270.0	9.5
315.0	12.1
360.0	12.1

Light Distribution Curve [Unit: cd]

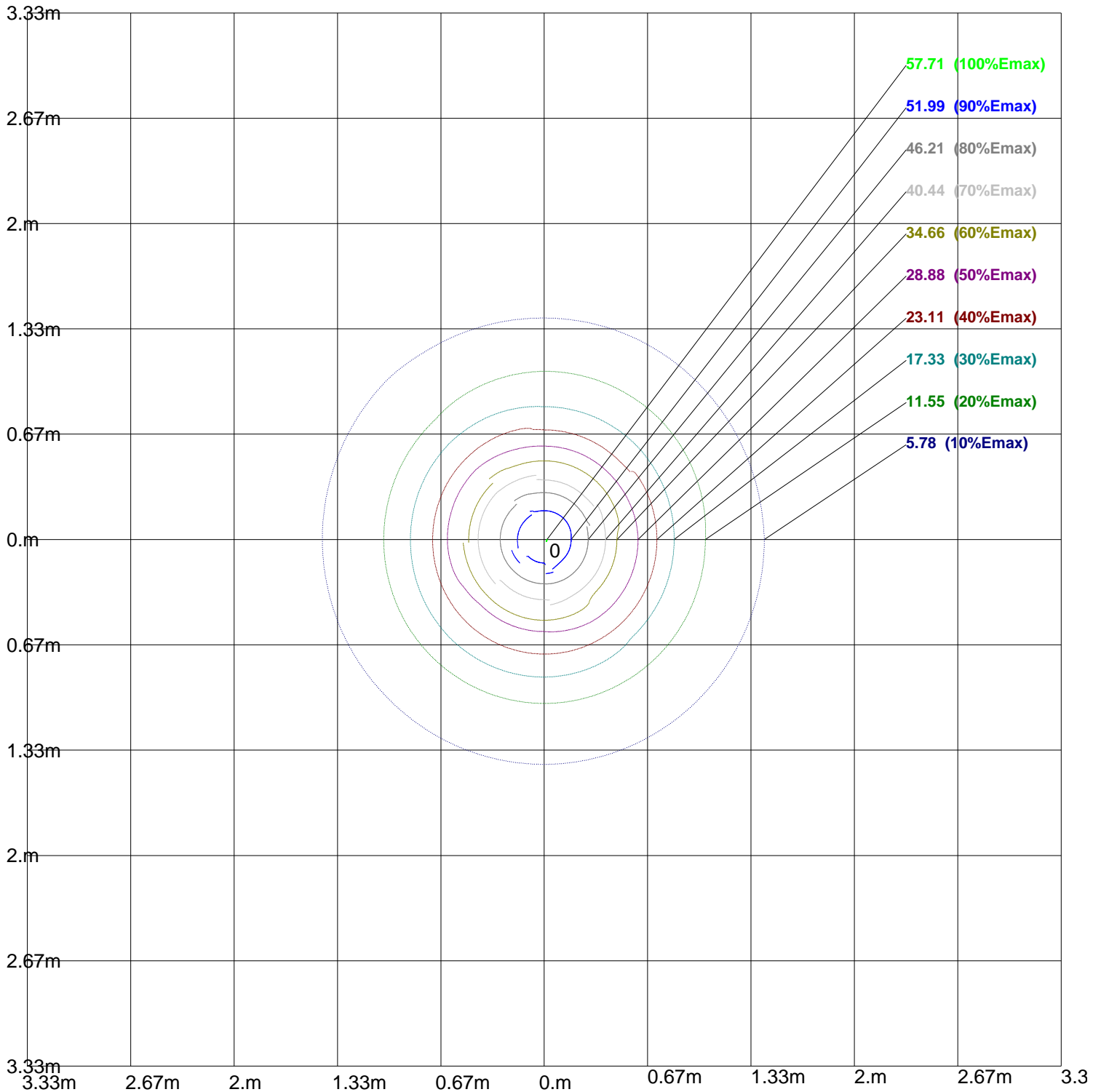
Luminaire



Max Plane Light Distribution Curve [Unit: cd]



# Iso-Lux[lx]



Height: 1 m  
Max Illuminance : 57.77lx

# Luminance Limiting Curve

Diameter: 85 mm

Length: mm

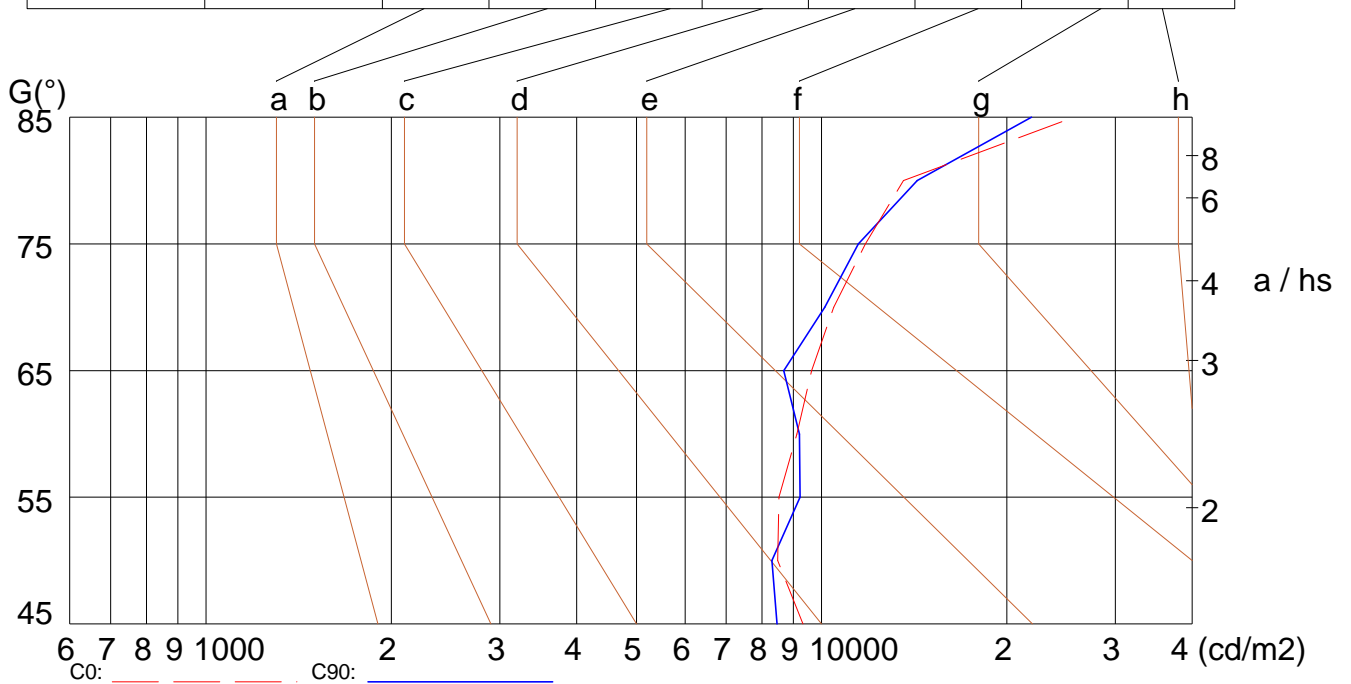
Width: 85 mm

Height: mm

(cd/m<sup>2</sup>)

$\gamma$	45°	50°	55°	60°	65°	70°	75°	80°	85°
C0	9323	8483	8522	9112	9635	10463	11782	13584	25727
C90	8460	8302	9226	9202	8680	10122	11470	14307	21919

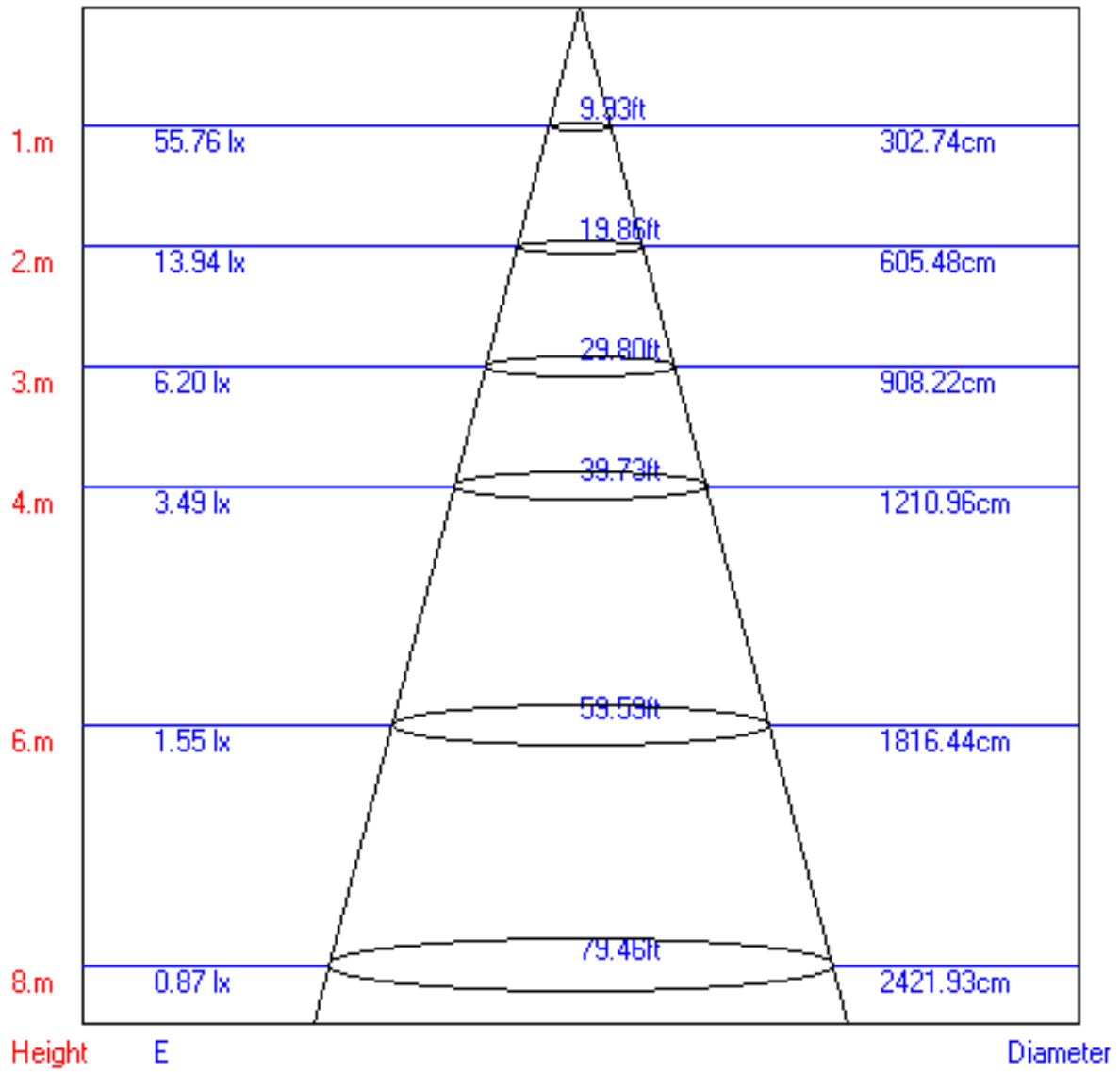
Glare	Quality	Service Values Illuminance (lx)							
1.15	A	2000	1000	500	≤300				
1.5	B		2000	1000	500	≤300			
1.85	C			2000	1000	500	≤300		
2.2	D				2000	1000	500	≤300	
2.55	E					2000	1000	500	≤300



Lum. Limiting Curve (C0/C90)



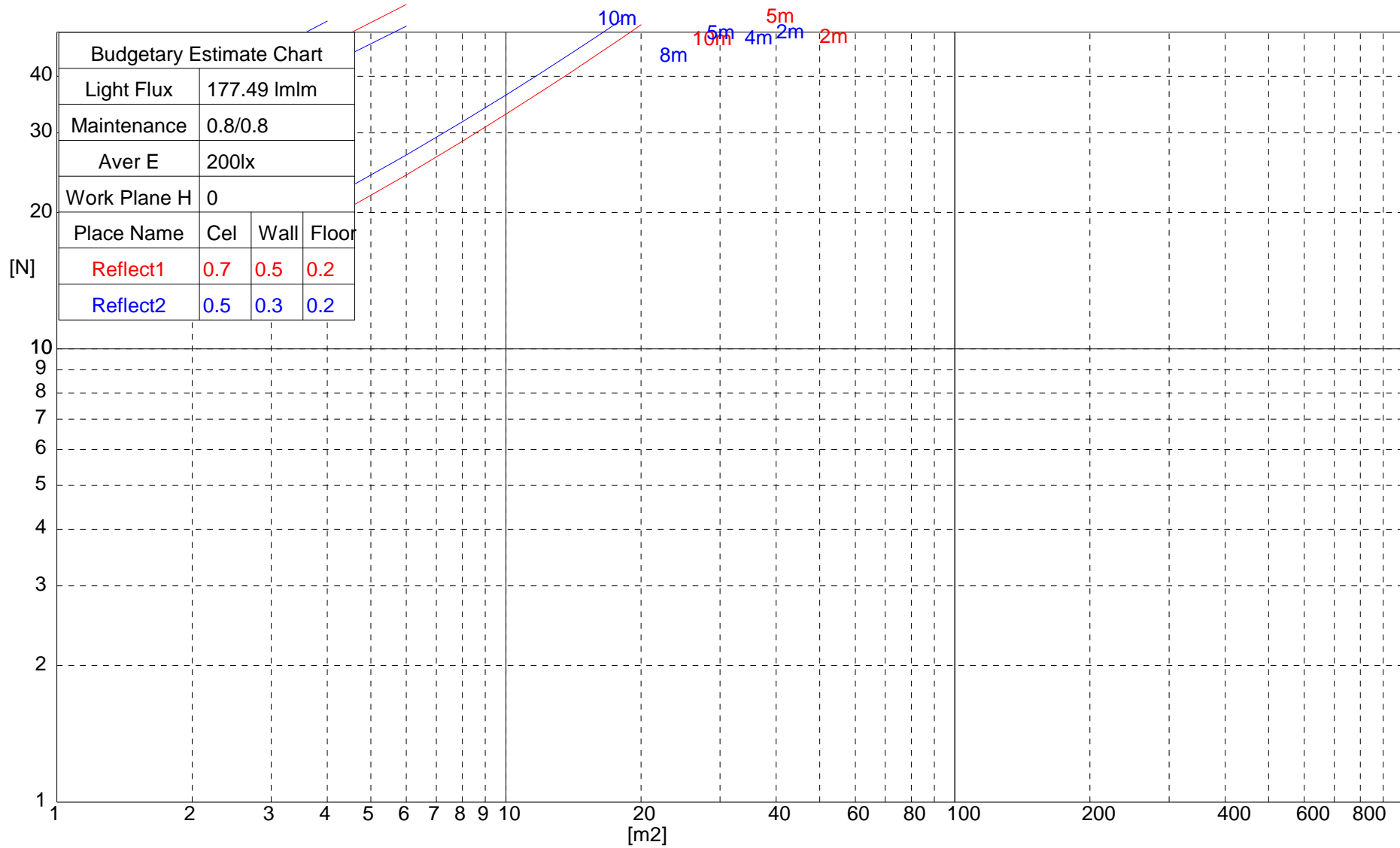
Lux-Distance Curve



Beam Angle:113.10°

Utilization Coefficient Table

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 FOR RHOFC=20															
0	1.19	1.19	1.19	1.16	1.16	1.16	1.11	1.11	1.11	1.06	1.06	1.06	1.02	1.02	1.02	1.00
1	0.99	0.96	0.95	0.98	0.95	0.93	0.95	0.92	0.89	0.90	0.87	0.84	0.84	0.81	0.78	0.73
2	0.82	0.79	0.77	0.82	0.78	0.75	0.80	0.76	0.72	0.77	0.73	0.69	0.73	0.68	0.64	0.59
3	0.69	0.66	0.64	0.69	0.65	0.62	0.69	0.64	0.60	0.67	0.62	0.57	0.65	0.59	0.54	0.49
4	0.59	0.56	0.54	0.60	0.56	0.53	0.60	0.55	0.51	0.59	0.53	0.49	0.58	0.51	0.46	0.42
5	0.52	0.48	0.46	0.52	0.48	0.46	0.53	0.48	0.44	0.53	0.47	0.42	0.52	0.45	0.40	0.36
6	0.45	0.42	0.40	0.46	0.42	0.40	0.48	0.42	0.38	0.48	0.41	0.37	0.47	0.40	0.35	0.31
7	0.40	0.37	0.36	0.41	0.38	0.35	0.43	0.37	0.34	0.43	0.37	0.32	0.44	0.36	0.31	0.28
8	0.36	0.33	0.32	0.37	0.34	0.31	0.39	0.34	0.30	0.40	0.33	0.29	0.40	0.33	0.28	0.25
9	0.33	0.30	0.29	0.34	0.30	0.28	0.35	0.30	0.27	0.37	0.30	0.26	0.37	0.30	0.25	0.22
10	0.30	0.27	0.26	0.31	0.28	0.25	0.33	0.28	0.25	0.34	0.28	0.24	0.35	0.28	0.23	0.20



## UGR Glare Index

Ceiling	70	70	50	50	30	70	70	50	50	30	
Wall	50	30	50	30	30	50	30	50	30	30	
Floor	20	20	20	20	20	20	20	20	20	20	
Room Size X      Y	Weft to light axis direction of observation					Direction of light axis parallel observation					
2H	2H	14.8	15.9	15.1	15.9	16.5	14.5	15.9	14.9	16.1	16.4
	3H	16.2	17.5	16.6	17.7	18.1	16.2	17.3	16.5	17.8	18.0
	4H	17.0	18.1	17.3	18.5	18.7	16.9	18.0	17.2	18.6	18.9
	6H	17.6	18.5	18.1	18.9	19.0	17.5	18.4	17.8	19.0	19.0
	8H	17.9	18.8	18.1	19.0	19.3	17.9	18.8	17.9	19.0	19.4
4H	12H	17.8	18.9	18.2	19.1	19.6	17.9	18.6	18.1	19.3	19.4
	2H	15.7	16.6	15.9	16.8	17.0	15.5	16.6	15.7	16.8	17.0
	3H	17.3	18.4	17.7	18.3	18.7	17.4	18.3	17.5	18.4	18.8
	4H	18.2	19.0	18.6	19.1	19.4	18.0	18.9	18.4	19.2	19.5
	6H	18.8	19.5	19.1	19.9	20.1	18.7	19.5	19.0	19.7	20.2
8H	8H	19.1	19.7	19.4	19.9	20.4	19.0	19.6	19.3	19.9	20.2
	12H	19.2	20.0	19.5	20.2	20.4	19.2	19.7	19.5	20.1	20.6
	4H	18.5	19.2	19.0	19.4	19.9	18.4	19.1	18.7	19.4	19.9
	6H	19.4	19.9	19.9	20.2	20.5	19.3	19.8	19.7	20.1	20.6
	8H	19.6	20.2	20.1	20.5	21.0	19.7	20.1	20.0	20.4	21.0
12H	12H	20.0	20.4	20.5	20.8	21.2	19.9	20.3	20.3	20.8	21.2
	4H	18.6	19.2	18.9	19.4	19.8	18.5	19.1	18.8	19.5	19.9
	6H	19.5	20.0	19.9	20.2	20.7	19.5	19.8	19.7	20.2	20.7
	8H	19.8	20.4	20.4	20.5	21.0	19.9	20.1	20.2	20.6	21.0