

Luminaire Property

Luminaire: RH-MSD20 20W 4000K

Report NO.:

Voltage: 220.4 V

Test NO.:

Current: 0.155 A

Lamp:

Power: 18.7 W

Sum Lumens: 1880.04 lm

Power Factor: 0.546

Number of Lamps: 1

Ballast Type: EMC300mA

Diameter: mm

Width: 240 mm

Length: 240 mm

Height: 38mm

Photometric Type: Type C

Remark: PMMA+0.5W SMD2835

Photometric Results

Lumens: 1880.04 lm

Angle of maximum intensity: C:0.0 G:2.0

Effective luminous flux: 1852.45 lm

Half Peak Side Angle(50%): Left: -53.2 Right:54.6

Efficiency: 100.5369 lm/W

Light Out Rate(LOR) : 100.00%

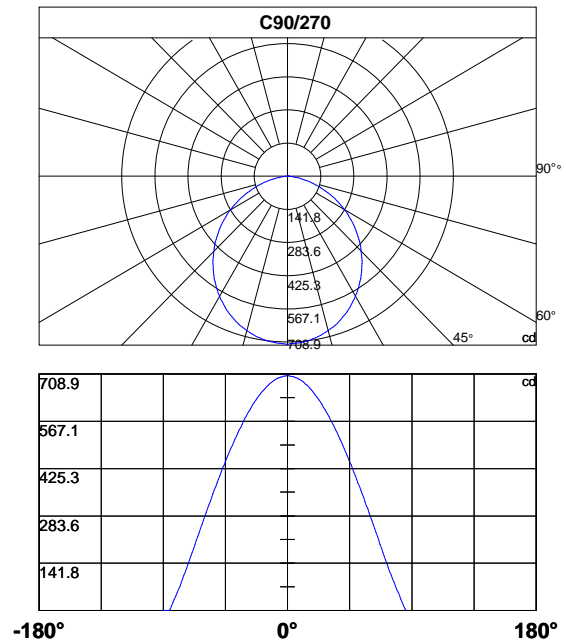
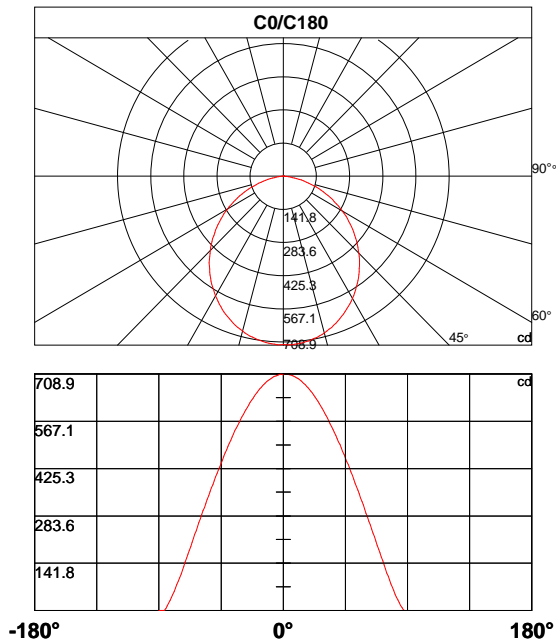
Central Intensity: 706.445cd

Up Flux Rate: 0.0%

Maximum Intensity: 708.865cd

Down Flux Rate: 100.0%

Beam Angle(10%): Left: -77.6 Right:78.8



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	706.4	708.7	708.9	708.3	707.6	706.5	705.2	703.3	701.6	699.6
45.0	706.4	703.2	702.8	701.6	701.1	699.4	698.0	696.3	693.8	691.5
90.0	706.4	703.2	702.8	701.6	701.1	699.4	698.0	696.3	693.8	691.5
135.0	706.4	708.6	707.9	706.8	705.5	703.6	702.4	700.0	697.5	694.9
180.0	706.4	708.6	707.9	706.8	705.5	703.6	702.4	700.0	697.5	694.9
225.0	706.4	703.3	702.6	702.0	700.9	699.6	698.2	696.6	694.3	691.9
270.0	706.4	703.3	702.6	702.0	700.9	699.6	698.2	696.6	694.3	691.9
315.0	706.4	708.7	708.9	708.3	707.6	706.5	705.2	703.3	701.6	699.6
360.0	706.4	708.7	708.9	708.3	707.6	706.5	705.2	703.3	701.6	699.6

C\G	10.0	11.0	12.0	13.0	14.0	15.0	16.0	17.0	18.0	19.0
0.0	696.9	694.3	691.6	687.8	684.3	680.5	676.1	671.7	667.6	662.4
45.0	688.8	685.9	682.9	679.0	675.3	671.1	666.6	662.6	657.6	652.7
90.0	688.8	685.9	682.9	679.0	675.3	671.1	666.6	662.6	657.6	652.7
135.0	692.0	688.7	685.7	681.8	677.6	673.2	668.5	664.4	659.3	653.8
180.0	692.0	688.7	685.7	681.8	677.6	673.2	668.5	664.4	659.3	653.8
225.0	689.2	686.3	683.0	679.6	675.7	671.7	667.3	662.5	658.3	653.4
270.0	689.2	686.3	683.0	679.6	675.7	671.7	667.3	662.5	658.3	653.4
315.0	696.9	694.3	691.6	687.8	684.3	680.5	676.1	671.7	667.6	662.4
360.0	696.9	694.3	691.6	687.8	684.3	680.5	676.1	671.7	667.6	662.4

C\G	20.0	21.0	22.0	23.0	24.0	25.0	26.0	27.0	28.0	29.0
0.0	657.1	651.7	645.8	639.7	634.2	627.5	620.9	613.8	606.8	600.2
45.0	647.1	641.1	635.1	630.1	623.7	616.9	609.7	602.8	595.5	588.8
90.0	647.1	641.1	635.1	630.1	623.7	616.9	609.7	602.8	595.5	588.8
135.0	647.7	641.7	635.5	630.3	623.5	616.5	609.3	602.0	594.4	587.4
180.0	647.7	641.7	635.5	630.3	623.5	616.5	609.3	602.0	594.4	587.4
225.0	647.9	641.9	635.9	630.1	624.3	617.9	610.9	603.6	596.5	589.7
270.0	647.9	641.9	635.9	630.1	624.3	617.9	610.9	603.6	596.5	589.7
315.0	657.1	651.7	645.8	639.7	634.2	627.5	620.9	613.8	606.8	600.2
360.0	657.1	651.7	645.8	639.7	634.2	627.5	620.9	613.8	606.8	600.2

C\G	30.0	31.0	32.0	33.0	34.0	35.0	36.0	37.0	38.0	39.0
0.0	592.5	584.8	576.7	568.1	559.4	550.9	543.3	534.1	525.1	515.8
45.0	581.1	573.4	565.1	556.8	549.1	540.3	531.7	522.2	513.0	503.6
90.0	581.1	573.4	565.1	556.8	549.1	540.3	531.7	522.2	513.0	503.6
135.0	579.7	571.6	562.8	554.2	546.7	538.2	528.9	519.7	510.3	500.7
180.0	579.7	571.6	562.8	554.2	546.7	538.2	528.9	519.7	510.3	500.7
225.0	582.1	574.3	565.8	557.7	549.0	541.4	532.6	523.5	514.2	504.8
270.0	582.1	574.3	565.8	557.7	549.0	541.4	532.6	523.5	514.2	504.8
315.0	592.5	584.8	576.7	568.1	559.4	550.9	543.3	534.1	525.1	515.8
360.0	592.5	584.8	576.7	568.1	559.4	550.9	543.3	534.1	525.1	515.8

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	506.1	497.7	487.9	477.4	467.3	456.8	446.4	437.2	426.7	415.5
45.0	494.1	485.5	475.5	465.8	455.3	445.3	436.4	425.7	415.0	403.7
90.0	494.1	485.5	475.5	465.8	455.3	445.3	436.4	425.7	415.0	403.7
135.0	492.0	482.2	472.1	462.0	451.4	440.8	430.2	421.5	410.5	399.6
180.0	492.0	482.2	472.1	462.0	451.4	440.8	430.2	421.5	410.5	399.6
225.0	495.2	486.7	476.7	466.7	456.5	446.1	435.7	426.4	415.8	404.6
270.0	495.2	486.7	476.7	466.7	456.5	446.1	435.7	426.4	415.8	404.6
315.0	506.1	497.7	487.9	477.4	467.3	456.8	446.4	437.2	426.7	415.5
360.0	506.1	497.7	487.9	477.4	467.3	456.8	446.4	437.2	426.7	415.5

C\G	50.0	51.0	52.0	53.0	54.0	55.0	56.0	57.0	58.0	59.0
0.0	404.6	393.7	382.1	372.6	360.9	349.7	338.0	326.4	316.0	304.1
45.0	393.2	381.9	372.2	361.1	349.6	338.5	326.4	314.9	304.8	292.9
90.0	393.2	381.9	372.2	361.1	349.6	338.5	326.4	314.9	304.8	292.9
135.0	388.2	377.1	367.4	356.2	344.7	333.1	321.3	309.5	299.5	287.3
180.0	388.2	377.1	367.4	356.2	344.7	333.1	321.3	309.5	299.5	287.3
225.0	393.5	382.9	371.7	361.6	350.1	338.9	327.2	315.3	305.3	293.3
270.0	393.5	382.9	371.7	361.6	350.1	338.9	327.2	315.3	305.3	293.3
315.0	404.6	393.7	382.1	372.6	360.9	349.7	338.0	326.4	316.0	304.1
360.0	404.6	393.7	382.1	372.6	360.9	349.7	338.0	326.4	316.0	304.1

C\G	60.0	61.0	62.0	63.0	64.0	65.0	66.0	67.0	68.0	69.0
0.0	291.9	280.0	267.9	255.7	243.3	232.7	220.1	207.7	195.4	183.2
45.0	281.2	269.0	256.9	246.9	234.6	222.6	210.4	198.0	185.8	173.9
90.0	281.2	269.0	256.9	246.9	234.6	222.6	210.4	198.0	185.8	173.9
135.0	275.5	263.2	251.3	238.9	228.4	216.1	204.2	191.7	179.5	168.9
180.0	275.5	263.2	251.3	238.9	228.4	216.1	204.2	191.7	179.5	168.9
225.0	281.4	269.4	257.6	245.5	233.2	222.6	210.1	198.0	185.8	173.5
270.0	281.4	269.4	257.6	245.5	233.2	222.6	210.1	198.0	185.8	173.5
315.0	291.9	280.0	267.9	255.7	243.3	232.7	220.1	207.7	195.4	183.2
360.0	291.9	280.0	267.9	255.7	243.3	232.7	220.1	207.7	195.4	183.2

C\G	70.0	71.0	72.0	73.0	74.0	75.0	76.0	77.0	78.0	79.0
0.0	172.5	160.2	148.4	136.0	124.1	112.6	102.2	90.9	79.8	69.2
45.0	163.5	151.5	139.7	127.9	116.3	106.6	95.2	84.4	73.8	63.0
90.0	163.5	151.5	139.7	127.9	116.3	106.6	95.2	84.4	73.8	63.0
135.0	156.8	145.0	132.8	120.9	109.6	98.2	88.5	77.4	66.9	56.7
180.0	156.8	145.0	132.8	120.9	109.6	98.2	88.5	77.4	66.9	56.7
225.0	163.2	151.3	139.5	127.1	115.8	105.6	94.3	83.3	72.4	62.4
270.0	163.2	151.3	139.5	127.1	115.8	105.6	94.3	83.3	72.4	62.4
315.0	172.5	160.2	148.4	136.0	124.1	112.6	102.2	90.9	79.8	69.2
360.0	172.5	160.2	148.4	136.0	124.1	112.6	102.2	90.9	79.8	69.2

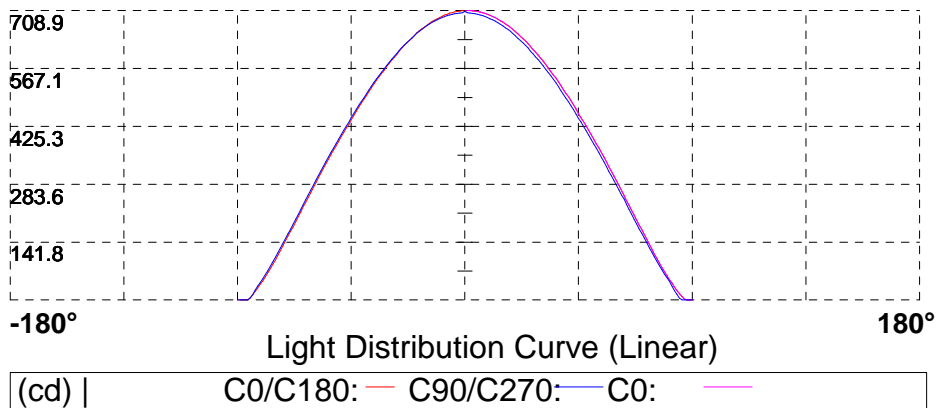
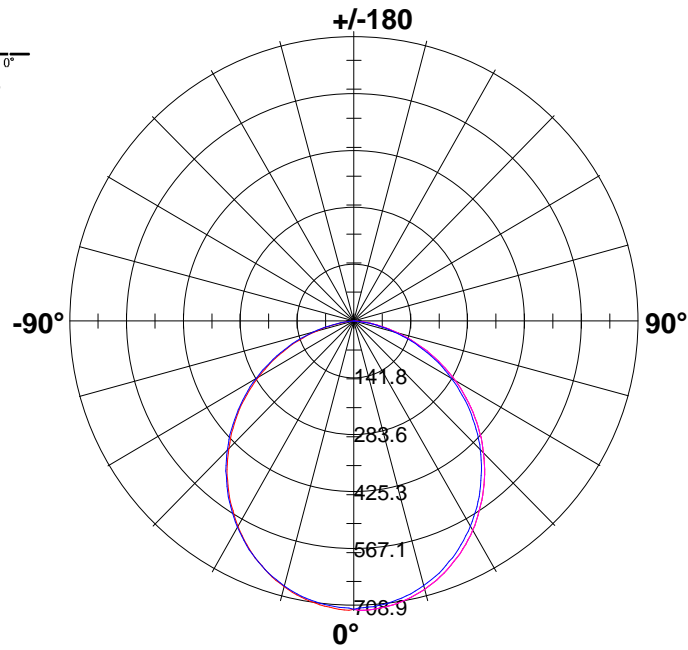
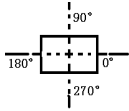
Photometric Data Table [cd]

C\G	80.0	81.0	82.0	83.0	84.0	85.0	86.0	87.0	88.0	89.0
0.0	58.9	49.1	40.7	31.8	23.4	15.3	8.2	1.9	0.0	0.0
45.0	54.8	44.8	33.5	22.8	13.3	4.5	0.0	0.0	0.0	0.0
90.0	54.8	44.8	33.5	22.8	13.3	4.5	0.0	0.0	0.0	0.0
135.0	46.5	38.8	29.6	21.0	13.4	5.8	0.0	0.0	0.0	0.0
180.0	46.5	38.8	29.6	21.0	13.4	5.8	0.0	0.0	0.0	0.0
225.0	52.3	42.7	34.0	24.0	14.1	5.0	0.0	0.0	0.0	0.0
270.0	52.3	42.7	34.0	24.0	14.1	5.0	0.0	0.0	0.0	0.0
315.0	58.9	49.1	40.7	31.8	23.4	15.3	8.2	1.9	0.0	0.0
360.0	58.9	49.1	40.7	31.8	23.4	15.3	8.2	1.9	0.0	0.0

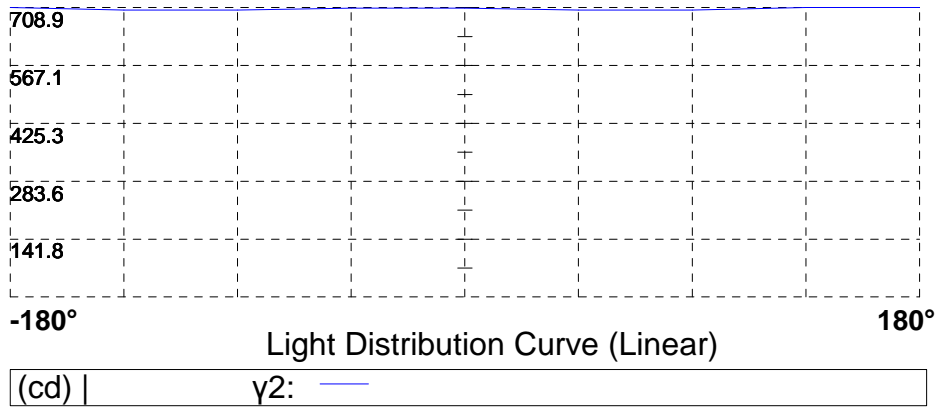
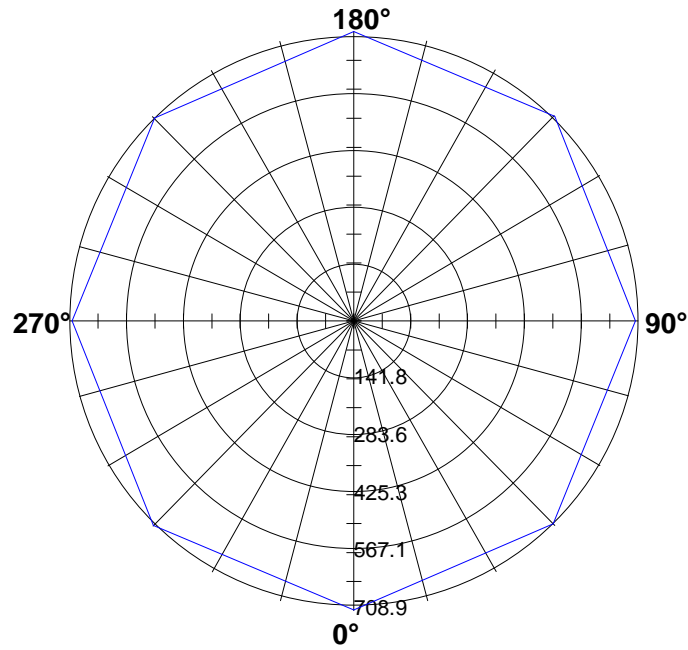
C\G	90.0
0.0	0.0
45.0	0.0
90.0	0.0
135.0	0.0
180.0	0.0
225.0	0.0
270.0	0.0
315.0	0.0
360.0	0.0

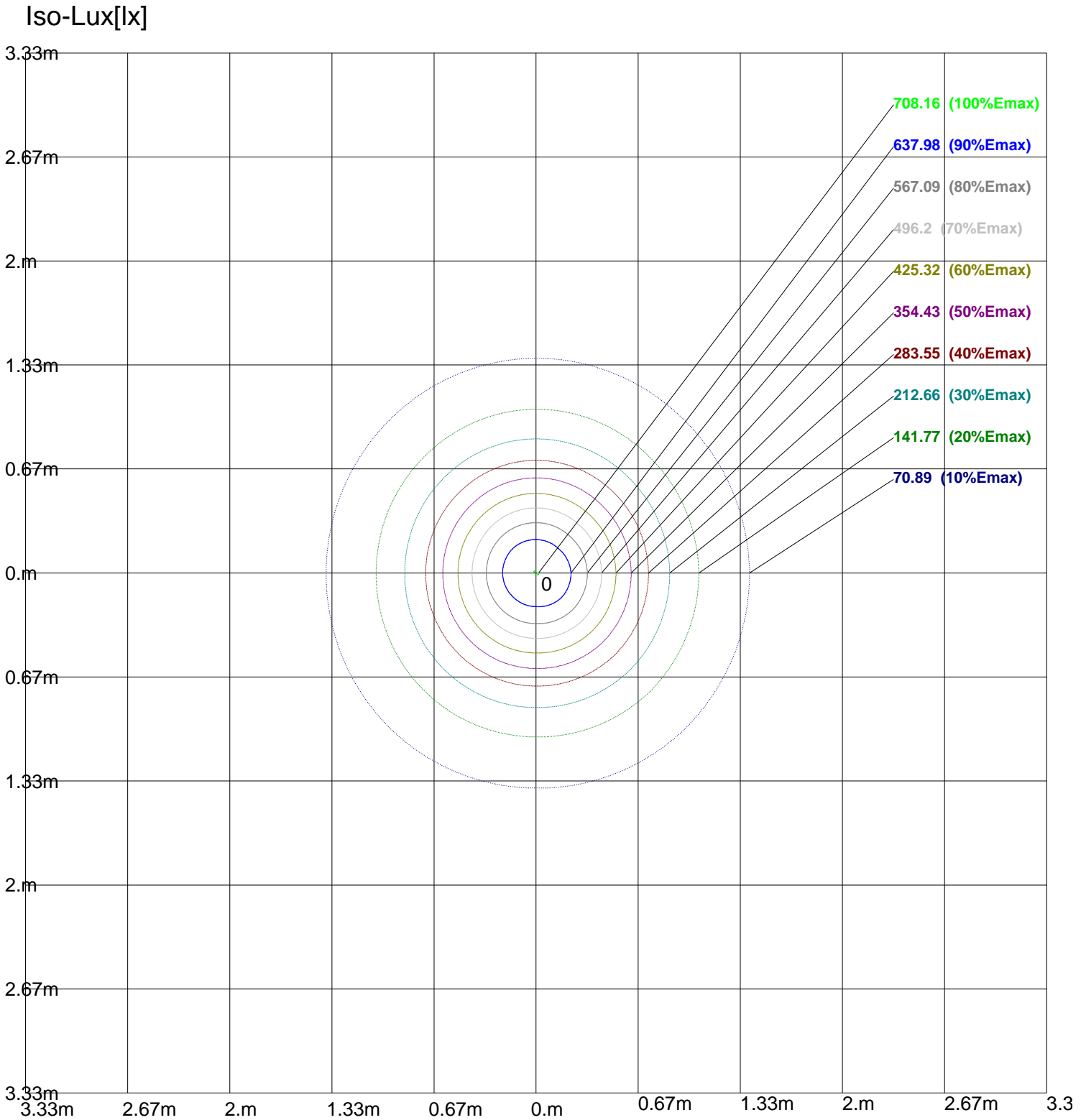
Light Distribution Curve [Unit: cd]

Luminaire



Max Plane Light Distribution Curve [Unit: cd]





Height: 1 m
Max Illuminance : 708.86lx

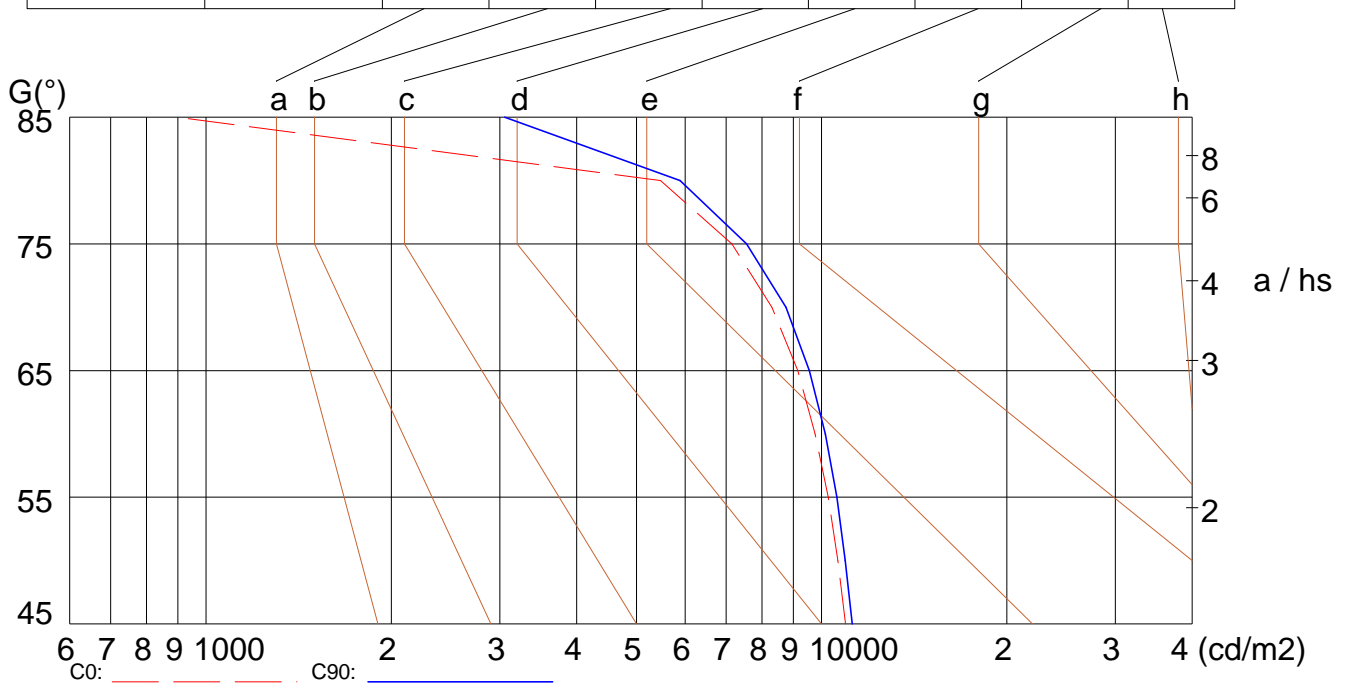
Luminance Limiting Curve

Diameter: mm
 Length: 240 mm
 Width: 240 mm
 Height: 38mm

(cd/m²)

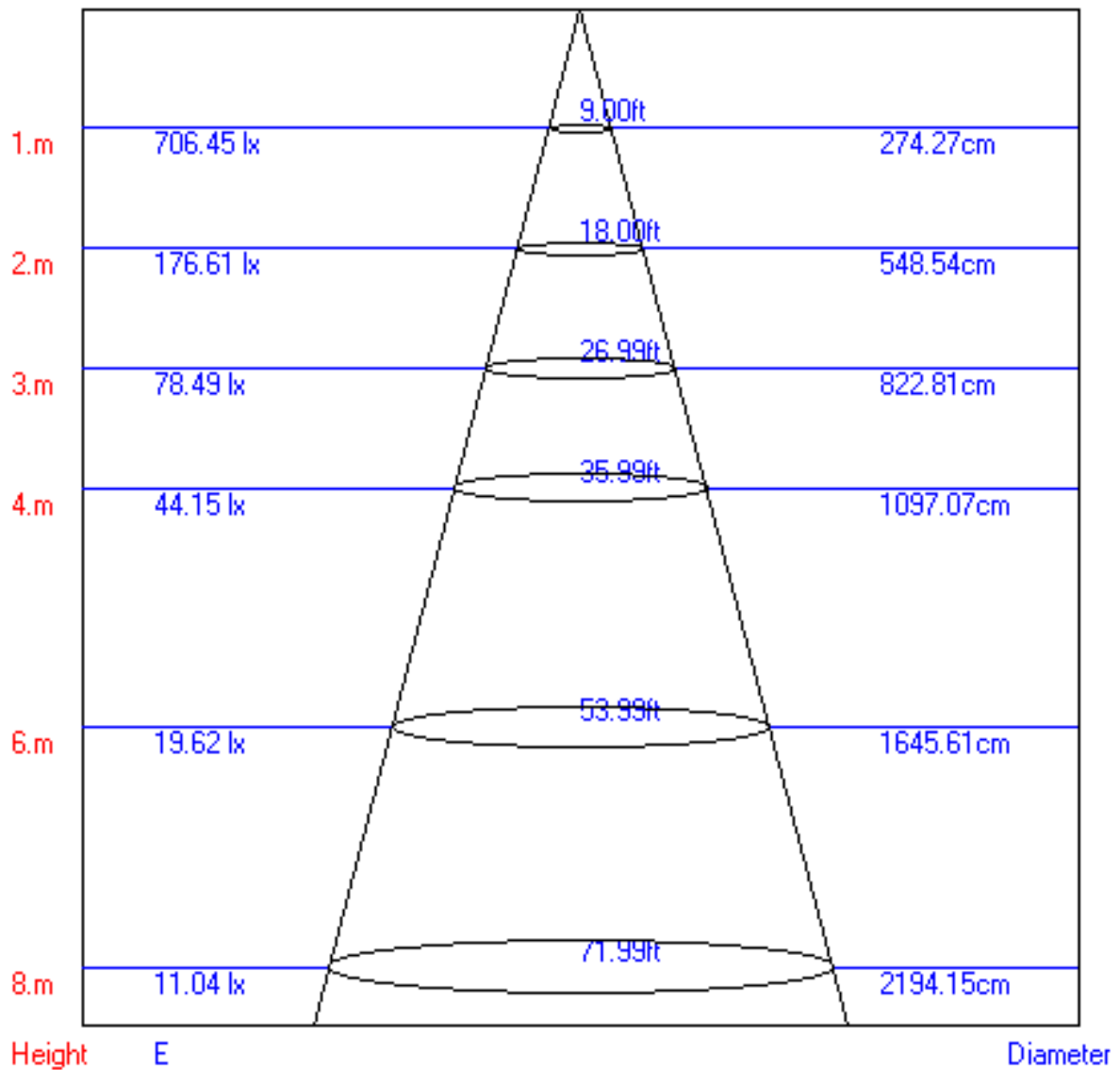
γ	45°	50°	55°	60°	65°	70°	75°	80°	85°
C0	10933	10621	10245	9765	9144	8301	7150	5474	896
C90	11216	10927	10584	10134	9558	8756	7551	5888	3055

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)

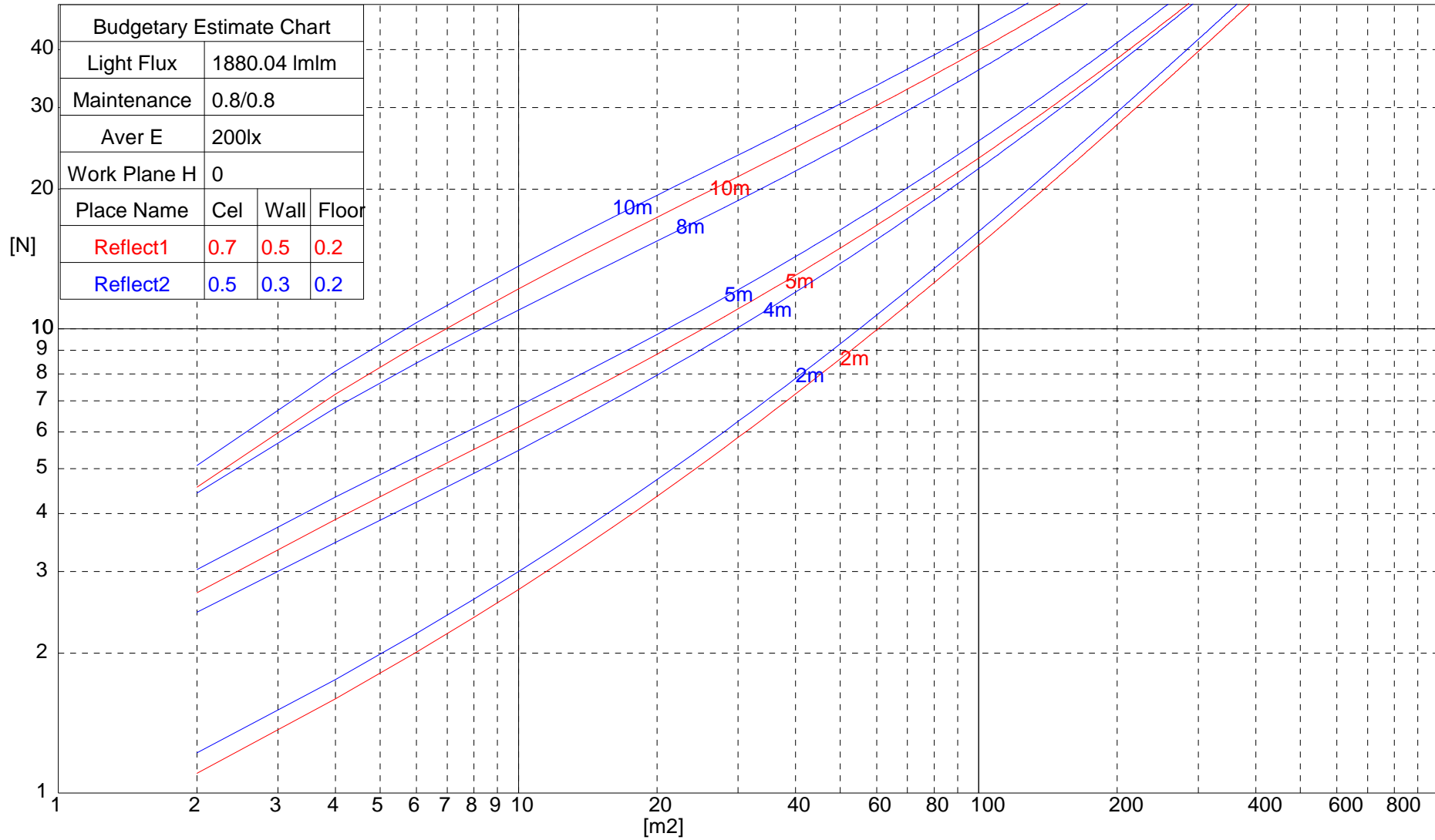
Lux-Distance Curve



Beam Angle:107.80°

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	1.06	1.04	1.02	1.04	1.02	1.01	1.00	0.98	0.96	0.96	0.93	0.91	0.89	0.87	0.85	0.80
2	0.90	0.88	0.86	0.89	0.86	0.84	0.87	0.84	0.81	0.84	0.80	0.77	0.79	0.75	0.71	0.67
3	0.77	0.74	0.73	0.77	0.74	0.71	0.76	0.72	0.68	0.74	0.69	0.65	0.70	0.65	0.61	0.57
4	0.67	0.64	0.62	0.67	0.64	0.61	0.67	0.62	0.58	0.65	0.60	0.56	0.63	0.57	0.52	0.48
5	0.59	0.56	0.54	0.59	0.55	0.53	0.59	0.54	0.51	0.59	0.53	0.48	0.57	0.51	0.46	0.42
6	0.52	0.49	0.47	0.52	0.49	0.46	0.53	0.48	0.45	0.53	0.47	0.43	0.52	0.46	0.40	0.37
7	0.46	0.43	0.42	0.47	0.43	0.41	0.48	0.43	0.39	0.48	0.42	0.38	0.48	0.41	0.36	0.33
8	0.41	0.39	0.37	0.42	0.39	0.37	0.43	0.39	0.35	0.44	0.38	0.34	0.44	0.37	0.32	0.29
9	0.38	0.35	0.34	0.38	0.35	0.33	0.40	0.35	0.32	0.40	0.35	0.30	0.41	0.34	0.29	0.26
10	0.34	0.32	0.31	0.35	0.32	0.30	0.37	0.32	0.29	0.37	0.32	0.28	0.38	0.31	0.26	0.24



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	14.7	15.9	15.0	16.0	16.3	14.5	15.8	14.9	16.0	16.4
	3H	16.2	17.5	16.6	17.8	17.9	16.2	17.4	16.5	17.9	18.0
	4H	17.0	18.0	17.4	18.7	18.7	16.9	18.0	17.2	18.6	18.7
	6H	17.5	18.6	18.0	18.8	19.0	17.5	18.5	17.8	18.9	19.0
	8H	17.8	18.9	18.1	19.0	19.4	17.8	18.8	18.0	18.9	19.2
4H	12H	17.9	18.7	18.1	19.2	19.5	17.7	18.7	18.0	19.2	19.5
	2H	15.7	16.6	15.8	16.8	17.0	15.7	16.4	15.6	16.7	17.1
	3H	17.5	18.3	17.8	18.5	18.8	17.3	18.3	17.7	18.5	18.8
	4H	18.1	19.0	18.6	19.0	19.5	18.1	18.9	18.3	19.0	19.5
	6H	18.8	19.5	19.2	19.7	20.0	18.7	19.4	19.1	19.8	20.2
8H	8H	19.1	19.7	19.5	20.0	20.2	19.0	19.5	19.3	20.0	20.4
	12H	19.2	19.8	19.6	20.1	20.5	19.2	19.8	19.5	20.1	20.6
	4H	18.6	19.2	18.8	19.4	19.8	18.4	19.1	18.7	19.3	19.9
	6H	19.4	19.9	19.8	20.3	20.6	19.2	19.8	19.7	20.2	20.5
	8H	19.7	20.2	20.1	20.5	20.9	19.6	20.1	20.0	20.5	20.9
12H	12H	19.9	20.4	20.4	20.8	21.2	19.9	20.3	20.4	20.7	21.2
	4H	18.5	19.2	19.0	19.5	19.8	18.5	19.1	18.9	19.6	19.9
	6H	19.5	20.0	19.8	20.2	20.7	19.5	19.9	19.8	20.3	20.6
	8H	19.9	20.4	20.4	20.5	21.1	19.8	20.2	20.2	20.5	21.0