

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO COMMERCIAL

Report Number: P583855

Luminaire Tested: **HC815D010-HM80520830-81RWWC**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P583855  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-14)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC815D010-HM80520830-81RWWC  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1514.0 lumens  
Efficiency: N/A  
Efficacy: 108.1 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.08 / 1.17  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

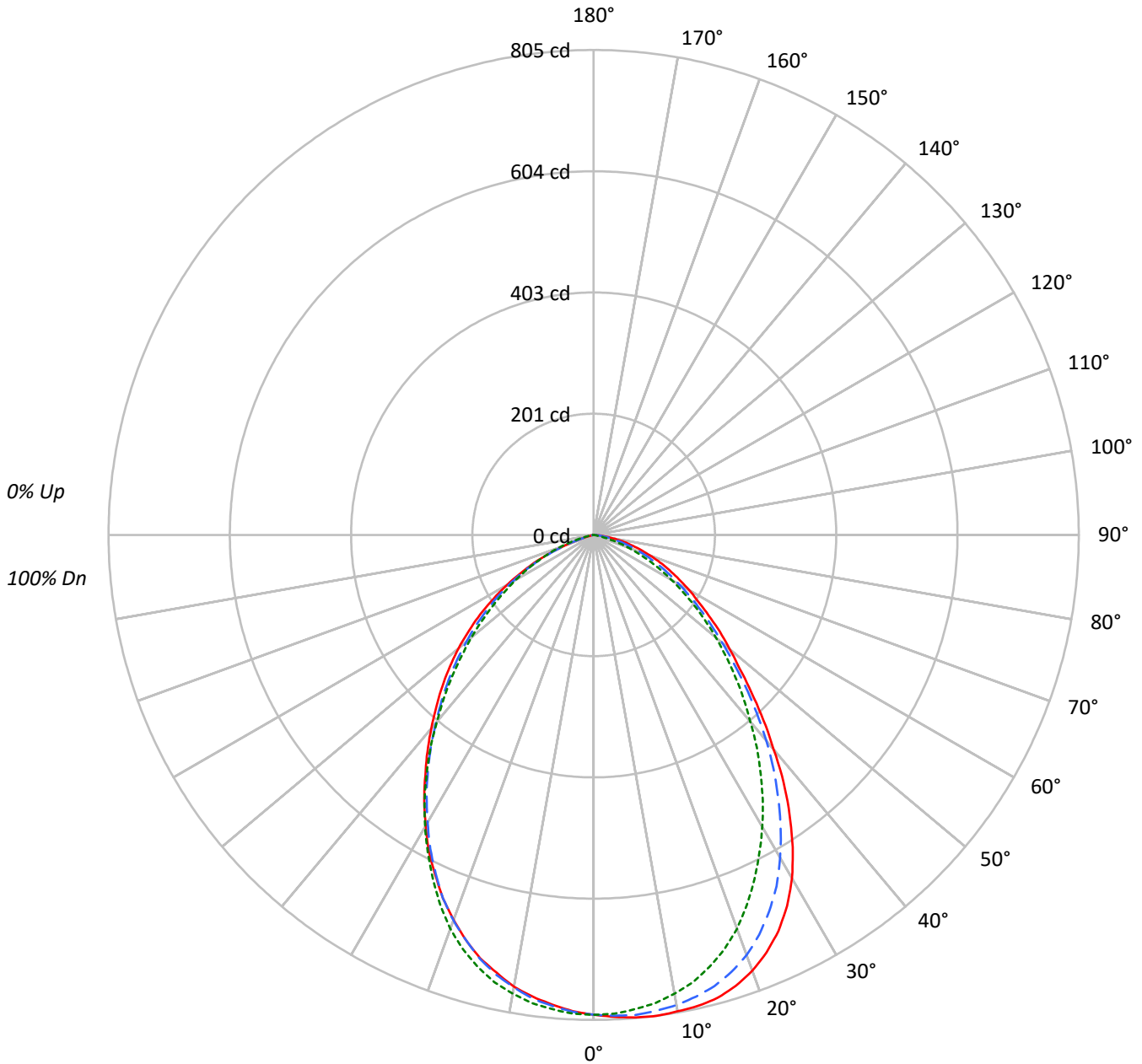
Input Watts (W): 14  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88																			
2	103	96	90	85	100	94	89	84	91	86	82	87	84	81	85	82	79	77																			
3	95	86	79	73	93	84	78	73	82	76	72	79	74	70	76	73	69	67																			
4	88	77	70	64	86	76	69	64	74	68	63	72	66	62	69	65	61	59																			
5	81	70	62	56	80	69	62	56	67	61	56	65	59	55	63	58	54	52																			
6	76	64	56	50	74	63	55	50	61	55	50	60	54	49	58	53	49	47																			
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42																			
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38																			
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35																			
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	24564	24564	24564
5°	24890	24460	24231
10°	25144	24210	23847
15°	25396	23700	23225
20°	25268	22823	22301
25°	24681	21459	21166
30°	23440	19922	19844
35°	21337	18175	18336
40°	18710	16271	16870
45°	16144	14474	15490
50°	14133	12708	14032
55°	12521	10924	12349
60°	11280	9183	10231
65°	10164	7377	7836
70°	8917	5364	4310
75°	7613	2788	1132
80°	5860	746	195
85°	3750	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.2	5.0
10°-20°	211.3	14.0
20°-30°	299.9	19.8
30°-40°	315.7	20.9
40°-50°	268.6	17.7
50°-60°	194.1	12.8
60°-70°	110.4	7.3
70°-80°	34.8	2.3
80°-90°	4.2	0.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	586.3	38.7
0°-40°	902.0	59.6
0°-60°	1364.6	90.1
0°-90°	1514.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1514.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	797	797	797	797	797	
5°	804	800	790	785	783	77
15°	796	775	742	728	728	224
25°	725	689	631	620	622	332
35°	567	534	483	480	487	353
45°	370	356	332	340	355	288
55°	233	216	203	215	230	210
65°	139	120	101	100	107	138
75°	64	49	23	11	10	69
85°	11	6	0	0	0	14
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	796.6	796.6	796.6	796.6	796.6	796.6	796.6	796.6	796.6	796.6	796.6
2.5°	800.8	801.9	799.8	799.8	801.9	799.8	800.8	800.8	799.8	799.8	798.8
5°	804.1	803.0	803.0	803.0	804.1	801.9	800.8	801.9	799.8	799.8	799.8
7.5°	805.2	805.2	804.1	803.0	803.0	803.0	801.9	800.8	799.8	797.7	796.6
10°	803.0	803.0	804.1	801.9	801.9	799.8	799.8	797.7	797.7	795.5	792.4
12.5°	800.8	799.8	799.8	797.7	797.7	795.5	795.5	792.4	791.3	788.1	784.9
15°	795.5	794.5	792.4	791.3	790.2	789.2	787.0	786.0	782.8	778.6	775.3
17.5°	784.9	783.9	782.8	780.7	778.6	777.5	776.4	773.2	768.9	765.8	760.5
20°	770.0	768.9	768.9	765.8	764.7	761.6	760.5	756.3	753.0	746.6	742.4
22.5°	749.9	750.8	748.8	746.6	744.4	741.3	739.1	734.9	729.6	723.2	717.9
25°	725.4	726.4	724.3	722.2	719.0	716.9	714.7	708.3	703.0	695.5	689.1
27.5°	694.6	694.6	694.6	692.4	687.1	686.0	683.8	677.5	670.1	663.7	657.3
30°	658.3	657.3	657.3	654.1	652.0	647.7	644.6	639.3	633.8	626.5	619.0
32.5°	614.8	615.8	612.6	610.5	607.3	607.3	603.1	598.8	592.4	584.9	577.6
35°	566.8	567.9	565.9	564.8	559.5	558.4	557.3	552.0	547.8	542.4	533.9
37.5°	517.9	516.9	515.9	515.9	512.6	510.6	508.4	505.3	498.9	494.5	490.3
40°	464.8	464.8	464.8	463.7	462.6	460.6	459.5	457.3	453.1	448.9	445.6
42.5°	416.9	416.9	415.8	414.8	412.7	413.7	411.6	409.5	405.2	402.0	399.9
45°	370.2	370.2	370.2	371.1	369.1	365.8	365.8	363.8	361.6	359.5	356.3
47.5°	328.6	331.9	329.7	328.6	329.7	325.5	325.5	323.3	321.3	319.1	314.9
50°	294.6	294.6	294.6	292.5	291.4	291.4	288.2	286.1	285.0	282.9	278.6
52.5°	263.8	261.6	261.6	260.5	259.6	257.4	257.4	255.2	251.0	248.8	245.7
55°	232.9	232.9	231.8	230.8	229.7	228.7	227.6	224.4	222.3	219.1	215.9
57.5°	205.2	207.4	206.3	204.2	202.1	202.1	199.9	197.9	194.6	191.5	188.2
60°	182.9	181.8	181.8	180.8	178.7	177.6	176.5	173.4	170.1	167.0	163.8
62.5°	159.5	159.5	159.5	157.4	155.3	154.2	153.2	151.0	146.8	143.6	141.5
65°	139.3	138.2	137.2	136.2	135.1	132.9	131.8	129.8	126.5	123.4	120.1
67.5°	119.2	118.1	118.1	117.0	113.8	112.8	112.8	109.5	106.4	103.1	100.0
70°	98.9	98.9	98.9	96.8	95.7	94.7	93.6	91.5	88.3	85.1	81.9
72.5°	81.9	80.9	80.9	79.8	76.5	75.6	74.5	72.3	69.2	67.0	64.8
75°	63.9	63.9	62.8	61.7	60.6	59.5	58.4	56.4	53.1	50.0	48.9
77.5°	48.9	47.8	47.8	46.8	44.7	43.6	43.6	41.5	38.3	36.2	34.0
80°	33.0	34.0	33.0	31.9	30.8	29.8	28.7	27.6	25.5	23.4	21.3
82.5°	20.2	21.3	20.2	20.2	19.2	18.1	18.1	15.9	14.9	13.9	12.8
85°	10.6	10.6	10.6	10.6	9.5	9.5	9.5	8.6	7.5	6.4	6.4
87.5°	3.1	4.2	3.1	3.1	3.1	3.1	3.1	3.1	2.2	2.2	2.2
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	796.6	796.6	796.6	796.6	796.6	796.6	796.6	796.6	796.6	796.6	796.6
2.5°	799.8	798.8	797.7	797.7	797.7	797.7	797.7	796.6	795.5	795.5	795.5
5°	797.7	797.7	797.7	796.6	795.5	795.5	793.4	792.4	791.3	790.2	789.2
7.5°	795.5	793.4	792.4	791.3	790.2	790.2	788.1	786.0	786.0	783.9	781.7
10°	789.2	788.1	786.0	783.9	782.8	781.7	779.6	776.4	775.3	773.2	771.1
12.5°	781.7	779.6	777.5	773.2	772.2	771.1	766.9	763.6	761.6	760.5	755.2
15°	772.2	767.9	764.7	759.4	758.3	756.3	753.0	749.9	745.5	742.4	740.2
17.5°	755.2	750.8	745.5	740.2	738.1	738.1	732.8	728.5	723.2	721.1	716.9
20°	734.9	729.6	725.4	719.0	715.8	712.6	709.4	703.0	698.8	695.5	690.2
22.5°	711.6	704.1	698.8	692.4	687.1	683.8	678.5	673.2	667.9	664.7	660.5
25°	681.8	675.4	666.8	660.5	657.3	653.0	646.6	641.3	636.0	630.7	628.5
27.5°	648.8	640.2	632.9	625.4	622.1	619.0	611.5	605.2	600.9	595.6	593.5
30°	612.6	604.1	595.6	589.2	586.0	580.7	576.5	569.0	563.7	559.5	554.2
32.5°	571.2	564.8	557.3	547.8	545.6	541.4	535.0	531.8	525.4	522.2	517.9
35°	526.5	522.2	514.8	507.3	504.2	502.0	496.7	490.3	486.1	482.8	480.7
37.5°	483.9	478.6	471.2	465.9	463.7	460.6	454.2	450.9	446.7	444.5	440.3
40°	438.1	432.8	427.5	424.4	421.1	419.1	414.8	411.6	407.3	404.2	403.1
42.5°	393.6	390.3	386.1	381.9	380.8	377.5	375.5	372.2	369.1	368.0	364.8
45°	353.1	349.9	345.7	341.4	340.3	338.2	337.2	333.9	331.9	331.9	331.9
47.5°	312.7	309.4	305.2	303.2	304.1	299.9	299.9	298.8	296.8	296.8	297.8
50°	276.5	272.3	271.2	269.1	266.9	264.9	265.9	262.7	262.7	264.9	263.8
52.5°	242.4	238.2	237.1	235.1	234.0	234.0	232.9	232.9	231.8	232.9	232.9
55°	211.6	208.5	206.3	204.2	203.2	203.2	203.2	202.1	201.0	203.2	204.2
57.5°	184.0	182.9	180.8	177.6	176.5	175.4	174.5	174.5	174.5	174.5	175.4
60°	159.5	157.4	155.3	152.1	152.1	151.0	150.0	148.9	148.9	148.9	148.9
62.5°	138.2	135.1	131.8	129.8	128.7	127.6	126.5	124.5	124.5	124.5	124.5
65°	117.0	113.8	111.7	109.5	107.4	107.4	105.3	104.2	102.1	101.1	98.9
67.5°	96.8	94.7	92.5	89.3	88.3	87.2	85.1	84.0	80.9	79.8	78.7
70°	78.7	75.6	73.4	71.2	70.3	68.1	65.9	63.9	61.7	59.5	57.5
72.5°	61.7	58.4	56.4	54.2	52.1	52.1	48.9	46.8	43.6	41.5	38.3
75°	45.8	42.5	40.4	37.2	36.2	35.1	31.9	29.8	26.6	23.4	21.3
77.5°	30.8	28.7	26.6	23.4	21.3	21.3	18.1	15.9	13.9	10.6	9.5
80°	19.2	17.0	14.9	12.8	12.8	10.6	9.5	7.5	5.3	4.2	3.1
82.5°	10.6	9.5	8.6	6.4	6.4	5.3	4.2	3.1	2.2	1.1	1.1
85°	5.3	4.2	3.1	3.1	2.2	2.2	2.2	1.1	1.1	0.0	0.0
87.5°	2.2	1.1	1.1	1.1	1.1	1.1	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	796.6	796.6	796.6	796.6	796.6	796.6	796.6	796.6	796.6	796.6	796.6
2.5°	794.5	794.5	793.4	793.4	793.4	792.4	793.4	792.4	792.4	792.4	793.4
5°	790.2	788.1	788.1	787.0	787.0	786.0	787.0	786.0	784.9	783.9	784.9
7.5°	781.7	779.6	778.6	777.5	777.5	777.5	776.4	775.3	776.4	773.2	775.3
10°	770.0	768.9	766.9	765.8	764.7	765.8	764.7	762.5	762.5	762.5	761.6
12.5°	755.2	753.0	751.9	750.8	748.8	748.8	749.9	747.7	747.7	745.5	745.5
15°	737.1	734.9	732.8	732.8	730.7	730.7	729.6	729.6	728.5	727.5	727.5
17.5°	714.7	711.6	709.4	710.5	709.4	708.3	708.3	706.3	705.2	706.3	706.3
20°	688.2	686.0	683.8	684.9	682.8	681.8	682.8	679.6	680.7	680.7	680.7
22.5°	658.3	657.3	654.1	654.1	652.0	650.9	652.0	652.0	653.0	652.0	652.0
25°	625.4	623.2	621.2	621.2	620.1	619.0	620.1	621.2	620.1	621.2	621.2
27.5°	590.3	587.1	587.1	584.9	584.9	586.0	584.9	586.0	587.1	587.1	589.2
30°	552.0	550.9	549.8	548.8	548.8	549.8	549.8	549.8	550.9	553.1	553.1
32.5°	515.9	513.7	511.5	511.5	513.7	512.6	513.7	513.7	515.9	515.9	517.9
35°	476.5	476.5	474.4	475.4	475.4	475.4	475.4	477.5	479.7	480.7	482.8
37.5°	440.3	437.2	438.1	438.1	439.2	438.1	441.4	441.4	443.6	443.6	445.6
40°	401.0	401.0	402.0	401.0	402.0	402.0	404.2	406.3	407.3	409.5	410.5
42.5°	363.8	365.8	363.8	364.8	365.8	366.9	368.0	369.1	373.3	375.5	378.6
45°	329.7	330.8	331.9	332.9	331.9	333.9	335.0	337.2	340.3	341.4	342.5
47.5°	296.8	297.8	298.8	299.9	299.9	302.1	303.2	305.2	307.4	308.5	309.4
50°	264.9	266.9	268.0	268.0	269.1	271.2	273.3	273.3	275.5	278.6	279.7
52.5°	236.1	236.1	238.2	239.3	240.4	240.4	243.5	244.6	245.7	247.9	249.9
55°	204.2	207.4	208.5	208.5	210.6	212.7	213.8	214.9	214.9	219.1	219.1
57.5°	176.5	177.6	179.8	179.8	179.8	182.9	182.9	185.1	186.2	187.1	189.3
60°	148.9	151.0	151.0	152.1	151.0	153.2	154.2	156.3	157.4	158.5	159.5
62.5°	123.4	123.4	124.5	124.5	124.5	124.5	126.5	126.5	128.7	129.8	130.9
65°	98.9	98.9	98.9	98.9	98.9	98.9	98.9	98.9	100.0	100.0	102.1
67.5°	76.5	75.6	73.4	74.5	73.4	73.4	72.3	72.3	73.4	73.4	75.6
70°	55.3	54.2	52.1	52.1	51.1	50.0	48.9	47.8	46.8	46.8	46.8
72.5°	36.2	34.0	30.8	29.8	29.8	27.6	25.5	24.5	24.5	24.5	24.5
75°	18.1	15.9	13.9	12.8	12.8	10.6	11.7	10.6	10.6	10.6	10.6
77.5°	7.5	5.3	4.2	4.2	4.2	3.1	3.1	3.1	3.1	3.1	3.1
80°	2.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
82.5°	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





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CATALOG NUMBER: HC815D010-HM80520830-81RWWC

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	796.6	796.6	796.6	796.6	796.6	796.6	796.6	796.6
2.5°	792.4	792.4	790.2	791.3	791.3	791.3	791.3	791.3
5°	782.8	783.9	782.8	783.9	783.9	782.8	782.8	782.8
7.5°	773.2	774.3	773.2	774.3	774.3	774.3	773.2	773.2
10°	761.6	761.6	761.6	761.6	761.6	760.5	761.6	761.6
12.5°	745.5	745.5	745.5	746.6	746.6	745.5	745.5	744.4
15°	728.5	726.4	727.5	728.5	727.5	727.5	727.5	727.5
17.5°	705.2	706.3	705.2	705.2	705.2	705.2	706.3	705.2
20°	680.7	680.7	681.8	680.7	680.7	680.7	680.7	679.6
22.5°	653.0	652.0	652.0	653.0	653.0	652.0	653.0	653.0
25°	622.1	623.2	622.1	622.1	623.2	623.2	623.2	622.1
27.5°	589.2	590.3	591.3	590.3	590.3	590.3	591.3	592.4
30°	555.1	557.3	555.1	555.1	557.3	556.2	557.3	557.3
32.5°	519.0	522.2	520.1	522.2	522.2	523.3	522.2	523.3
35°	482.8	486.1	486.1	486.1	487.1	488.1	488.1	487.1
37.5°	448.9	449.9	449.9	452.0	453.1	454.2	454.2	453.1
40°	413.7	415.8	416.9	416.9	416.9	419.1	421.1	419.1
42.5°	379.7	380.8	381.9	381.9	383.9	385.0	386.1	386.1
45°	346.7	348.8	349.9	351.0	352.1	354.1	353.1	355.2
47.5°	312.7	315.8	316.9	318.0	320.2	321.3	322.2	323.3
50°	281.8	284.0	284.0	286.1	289.3	289.3	291.4	292.5
52.5°	251.0	252.1	253.2	254.1	256.3	258.5	258.5	260.5
55°	221.2	222.3	222.3	223.4	224.4	228.7	229.7	229.7
57.5°	190.4	190.4	192.6	193.5	194.6	196.8	196.8	196.8
60°	160.6	161.7	161.7	162.7	163.8	165.9	167.0	165.9
62.5°	130.9	131.8	131.8	132.9	135.1	136.2	135.1	135.1
65°	103.1	104.2	104.2	105.3	107.4	107.4	106.4	107.4
67.5°	75.6	75.6	75.6	75.6	75.6	75.6	75.6	75.6
70°	47.8	46.8	45.8	46.8	46.8	46.8	45.8	47.8
72.5°	23.4	24.5	24.5	24.5	24.5	24.5	24.5	23.4
75°	10.6	10.6	9.5	9.5	9.5	10.6	10.6	9.5
77.5°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
80°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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— 0°-180°    - - 45°-225°    - - - - 90°-270°















(END OF REPORT)