

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: P583947

Luminaire Tested: **HC815D010-HM80520935-81WWBB**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P583947  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-17)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC815D010-HM80520935-81WWBB  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1264.8 lumens  
Efficiency: N/A  
Efficacy: 90.3 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.07 / 1.16  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

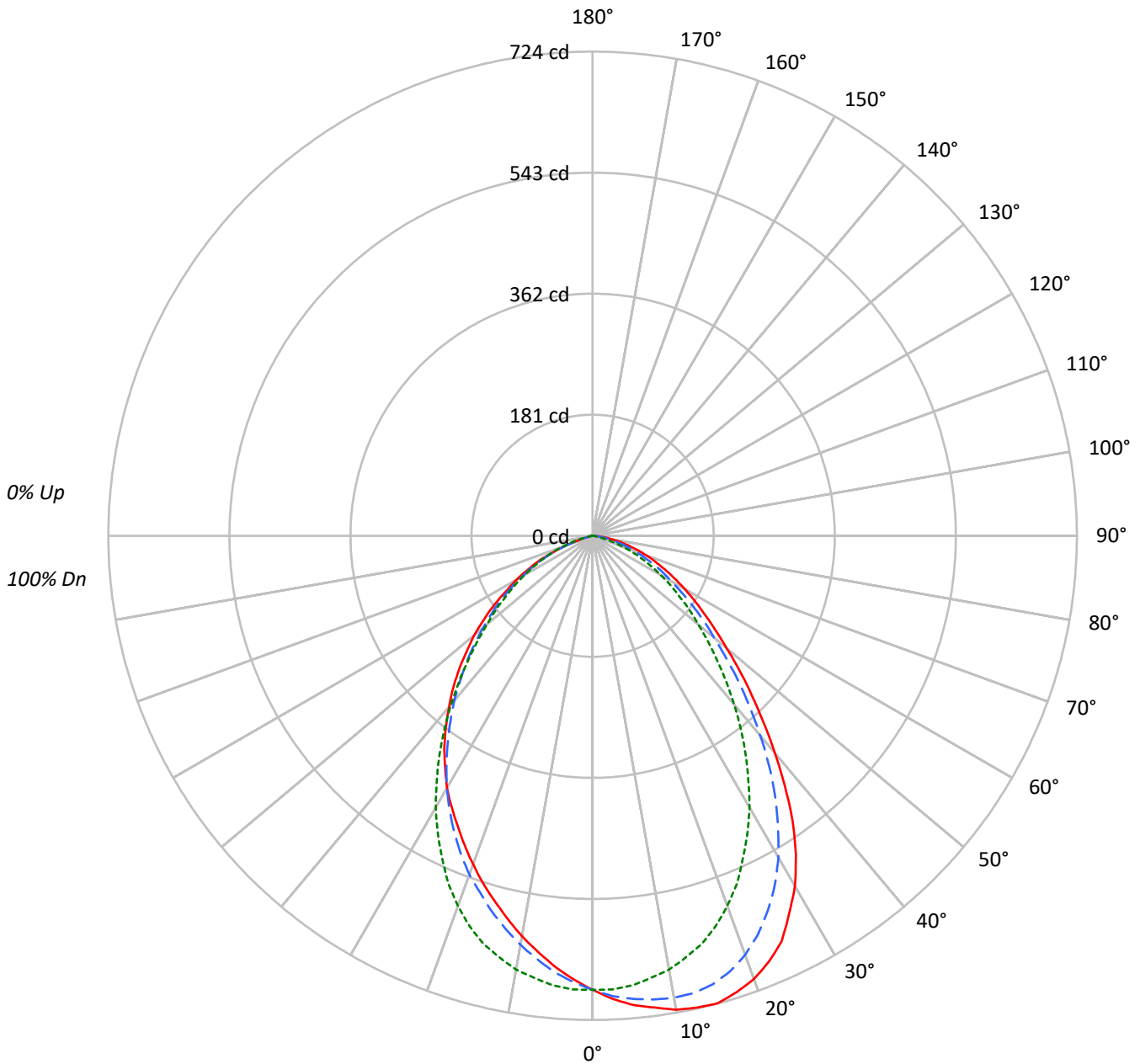
Input Watts (W): 14  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77																			
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67																			
4	88	78	70	64	86	76	69	64	74	68	63	72	66	62	70	65	61	59																			
5	82	70	63	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53																			
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	58	53	49	47																			
7	71	59	51	45	69	58	51	45	57	50	45	55	49	45	54	49	44	43																			
8	66	54	46	41	65	53	46	41	52	46	41	51	45	41	50	44	40	39																			
9	62	50	43	37	61	50	42	37	48	42	37	47	41	37	46	41	37	35																			
10	59	47	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32																			

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

	0°	90°	180°
0°	20938	20938	20938
5°	21804	20894	20015
10°	22532	20628	19038
15°	23103	20154	18050
20°	23148	19322	17153
25°	22759	18097	16264
30°	21538	16700	15507
35°	19643	15016	14557
40°	17080	13235	13441
45°	14653	11465	12306
50°	12516	9887	11053
55°	10967	8510	9607
60°	9763	7259	8079
65°	8668	5925	6443
70°	7691	4391	3660
75°	6398	2299	1096
80°	5043	728	178
85°	3573	354	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	64.0	5.1
10°-20°	179.3	14.2
20°-30°	253.8	20.1
30°-40°	265.6	21.0
40°-50°	221.5	17.5
50°-60°	157.1	12.4
60°-70°	90.5	7.2
70°-80°	29.1	2.3
80°-90°	4.0	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°	497.1	39.3
0°-40°	762.7	60.3
0°-60°	1141.3	90.2
0°-90°	1264.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1264.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	679	679	679	679	679	
5°	704	695	675	655	647	68
15°	724	694	631	582	565	203
25°	669	619	532	489	478	305
35°	522	476	399	378	387	323
45°	336	309	263	266	282	260
55°	204	183	158	166	179	184
65°	119	99	81	81	88	119
75°	54	40	19	9	9	58
85°	10	5	1	0	0	13
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°	679.0	679.0	679.0	679.0	679.0	679.0	679.0	679.0	679.0	679.0	679.0
2.5°	693.2	692.3	691.2	692.3	691.2	692.3	691.2	691.2	690.2	689.1	689.1
5°	704.4	703.4	703.4	703.4	702.4	701.4	701.4	700.3	698.3	697.3	695.3
7.5°	711.6	712.5	712.5	712.5	710.5	710.5	708.4	706.5	704.4	702.4	699.4
10°	719.6	719.6	718.7	717.6	715.5	714.6	713.6	711.6	708.4	704.4	701.4
12.5°	722.6	722.6	721.7	719.6	718.7	717.6	716.6	713.6	709.5	704.4	700.3
15°	723.7	721.7	720.7	719.6	717.6	714.6	714.6	710.5	705.4	699.4	694.3
17.5°	715.5	716.6	714.6	712.5	709.5	707.5	704.4	701.4	695.3	688.2	683.1
20°	705.4	704.4	703.4	700.3	696.2	695.3	692.3	687.2	682.0	674.0	666.8
22.5°	689.1	688.2	686.1	684.1	680.1	678.1	675.0	668.9	661.8	653.7	645.5
25°	668.9	666.8	663.8	659.7	656.7	654.7	650.6	644.6	636.4	627.3	619.1
27.5°	636.4	639.5	637.4	631.3	628.3	624.2	623.2	615.2	608.0	598.9	589.7
30°	604.9	604.9	601.9	598.9	593.8	590.7	586.7	580.6	573.5	562.4	555.3
32.5°	565.4	564.3	560.3	559.2	555.3	549.1	548.2	540.0	532.9	524.8	515.6
35°	521.8	519.7	515.6	512.6	510.6	507.5	504.4	497.3	490.2	482.1	476.1
37.5°	472.0	472.0	470.9	465.9	463.8	461.9	458.7	451.6	447.7	439.5	433.4
40°	424.3	423.3	420.2	419.2	417.2	414.2	412.1	408.0	402.0	395.8	389.8
42.5°	377.5	378.6	374.5	375.6	371.5	369.5	368.5	362.3	359.3	353.2	348.1
45°	336.0	335.0	332.9	331.9	329.9	327.9	325.8	322.8	317.6	311.6	308.6
47.5°	297.4	294.4	294.4	293.3	292.3	288.2	287.3	284.3	281.1	275.1	271.0
50°	260.9	260.9	260.9	259.8	256.8	255.8	253.8	250.8	247.6	243.7	237.5
52.5°	231.5	231.5	231.5	230.4	226.3	225.3	224.4	220.3	216.2	213.2	209.1
55°	204.0	205.1	204.0	202.0	198.9	198.9	195.9	193.9	189.8	186.8	182.7
57.5°	180.6	180.6	178.7	177.6	175.6	174.6	172.6	170.5	165.4	162.4	157.4
60°	158.3	157.4	157.4	155.3	153.3	151.2	150.3	147.1	145.2	140.0	136.0
62.5°	138.1	138.1	136.0	136.0	131.9	131.9	131.0	127.9	124.8	119.8	117.7
65°	118.8	118.8	117.7	116.8	113.6	112.7	111.7	108.6	105.6	102.5	99.4
67.5°	101.5	101.5	99.4	98.4	96.4	95.4	93.4	91.3	88.3	85.3	82.2
70°	85.3	84.2	83.3	82.2	80.1	79.2	77.1	75.1	72.1	70.0	67.0
72.5°	69.0	69.0	68.0	66.0	64.9	64.0	62.9	60.9	57.8	54.8	52.8
75°	53.7	53.7	53.7	51.8	49.8	48.7	48.7	46.6	44.7	41.6	39.6
77.5°	41.6	40.6	39.6	39.6	37.6	36.5	35.5	34.5	31.5	30.5	28.4
80°	28.4	29.4	28.4	27.4	26.4	25.4	25.4	23.4	22.3	20.2	18.3
82.5°	19.3	18.3	18.3	17.2	17.2	16.3	16.3	14.2	13.3	12.2	11.2
85°	10.1	10.1	9.2	9.2	9.2	8.1	8.1	7.1	7.1	6.1	5.1
87.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.0	2.0	2.0
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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	679.0	679.0	679.0	679.0	679.0	679.0	679.0	679.0	679.0	679.0	679.0
2.5°	688.2	686.1	685.2	685.2	684.1	683.1	682.0	681.1	679.0	679.0	677.0
5°	693.2	691.2	690.2	687.2	685.2	685.2	681.1	680.1	677.0	675.0	673.0
7.5°	697.3	693.2	690.2	687.2	685.2	683.1	679.0	675.0	670.9	666.8	664.8
10°	697.3	693.2	688.2	683.1	681.1	679.0	674.0	667.9	662.8	658.8	653.7
12.5°	695.3	689.1	683.1	679.0	675.0	671.9	665.9	659.7	653.7	645.5	641.5
15°	689.1	681.1	675.0	667.9	664.8	659.7	654.7	645.5	638.4	631.3	626.2
17.5°	677.0	666.8	659.7	652.6	647.6	644.6	636.4	628.3	620.2	612.0	606.0
20°	658.8	649.6	641.5	632.4	628.3	624.2	614.1	606.0	597.8	588.8	582.6
22.5°	636.4	627.3	616.1	609.0	602.9	597.8	588.8	579.6	571.4	563.3	555.3
25°	609.0	599.8	589.7	578.5	574.5	569.4	559.2	550.1	541.0	531.9	524.8
27.5°	579.6	567.4	559.2	547.1	543.0	537.9	526.8	516.6	508.5	501.4	493.3
30°	544.1	534.9	523.7	512.6	508.5	503.4	494.3	485.1	477.1	469.0	460.8
32.5°	505.5	496.3	485.1	477.1	470.9	466.9	457.8	449.7	441.5	433.4	426.3
35°	464.9	454.8	446.6	438.5	433.4	428.4	419.2	412.1	406.0	398.9	391.7
37.5°	423.3	416.2	408.0	398.9	393.8	389.8	382.7	374.5	369.5	363.4	358.2
40°	382.7	374.5	367.4	359.3	355.2	352.2	345.1	339.0	333.9	328.8	325.8
42.5°	341.0	333.9	326.8	321.7	318.7	315.7	310.6	303.5	300.4	295.3	292.3
45°	302.5	296.4	291.2	284.3	282.2	280.2	274.0	269.0	265.9	262.9	260.9
47.5°	265.9	261.8	255.8	251.7	248.7	246.7	242.6	238.5	235.5	233.4	231.5
50°	234.5	229.4	225.3	221.2	219.2	216.2	212.1	210.2	208.1	206.1	206.1
52.5°	205.1	199.9	195.9	192.8	190.9	188.8	185.7	184.7	182.7	182.7	181.7
55°	177.6	174.6	170.5	166.4	165.4	164.5	162.4	160.4	159.3	158.3	159.3
57.5°	154.2	151.2	147.1	144.1	143.2	142.1	141.1	139.1	138.1	138.1	138.1
60°	132.9	129.9	126.9	123.9	123.9	121.8	120.7	119.8	118.8	117.7	117.7
62.5°	113.6	110.6	107.6	105.6	104.6	103.5	101.5	100.5	99.4	99.4	98.4
65°	96.4	92.4	91.3	88.3	87.2	86.3	85.3	83.3	82.2	81.2	80.1
67.5°	79.2	77.1	74.1	72.1	71.1	70.0	69.0	67.0	66.0	64.9	62.9
70°	64.0	61.9	59.9	57.8	56.9	55.8	53.7	51.8	50.7	48.7	45.7
72.5°	49.8	47.7	45.7	43.6	42.7	41.6	39.6	37.6	35.5	33.5	31.5
75°	37.6	35.5	32.5	30.5	29.4	29.4	26.4	24.3	22.3	19.3	17.2
77.5°	26.4	23.4	22.3	20.2	19.3	17.2	15.2	13.3	11.2	10.1	8.1
80°	17.2	15.2	13.3	12.2	11.2	10.1	9.2	7.1	5.1	4.1	3.0
82.5°	10.1	9.2	8.1	7.1	6.1	5.1	4.1	4.1	3.0	2.0	1.0
85°	5.1	4.1	3.0	3.0	2.0	2.0	2.0	1.0	1.0	1.0	1.0
87.5°	2.0	1.0	1.0	1.0	1.0	1.0	1.0	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°	679.0	679.0	679.0	679.0	679.0	679.0	679.0	679.0	679.0	679.0	679.0
2.5°	676.0	675.0	674.0	673.0	673.0	670.9	670.9	669.9	667.9	666.8	666.8
5°	669.9	666.8	664.8	663.8	662.8	659.7	658.8	656.7	654.7	652.6	651.7
7.5°	660.8	655.6	653.7	652.6	649.6	646.6	644.6	641.5	638.4	635.4	634.4
10°	649.6	644.6	639.5	637.4	634.4	632.4	628.3	624.2	621.2	618.2	615.2
12.5°	635.4	629.3	624.2	622.1	619.1	615.2	609.0	607.0	601.9	599.8	595.8
15°	619.1	612.0	607.0	603.9	600.9	594.8	590.7	586.7	581.7	579.6	575.5
17.5°	598.9	590.7	585.6	582.6	580.6	575.5	569.4	564.3	559.2	557.2	554.2
20°	574.5	569.4	562.4	559.2	557.2	551.2	545.0	543.0	539.0	534.9	531.9
22.5°	547.1	542.0	534.9	531.9	530.8	525.7	520.7	517.7	514.7	511.5	508.5
25°	518.6	512.6	506.5	504.4	502.5	498.4	494.3	492.2	489.2	487.2	485.1
27.5°	488.3	482.1	477.1	474.0	472.0	469.0	466.9	464.9	462.8	460.8	459.8
30°	455.7	449.7	445.6	443.6	441.5	440.5	437.4	436.5	435.5	433.4	434.4
32.5°	423.3	418.1	414.2	411.0	411.0	409.1	408.0	408.0	407.0	407.0	407.0
35°	387.8	384.6	381.6	380.7	379.6	378.6	377.5	378.6	377.5	378.6	379.6
37.5°	355.2	352.2	350.2	349.2	348.1	349.2	348.1	348.1	349.2	351.1	352.2
40°	321.7	319.7	317.6	318.7	317.6	317.6	317.6	320.8	321.7	322.8	323.8
42.5°	290.3	288.2	287.3	287.3	288.2	287.3	289.3	290.3	292.3	295.3	297.4
45°	259.8	258.8	258.8	259.8	258.8	260.9	260.9	262.9	265.9	268.0	270.0
47.5°	231.5	231.5	231.5	232.4	232.4	233.4	235.5	236.5	238.5	240.5	242.6
50°	205.1	206.1	207.0	207.0	207.0	209.1	211.1	212.1	213.2	214.1	217.3
52.5°	181.7	182.7	182.7	183.8	184.7	185.7	186.8	188.8	189.8	191.8	192.8
55°	159.3	159.3	161.3	162.4	162.4	162.4	164.5	164.5	166.4	167.5	169.5
57.5°	138.1	139.1	139.1	140.0	140.0	141.1	142.1	143.2	144.1	145.2	146.2
60°	117.7	117.7	117.7	118.8	119.8	120.7	119.8	121.8	121.8	123.9	124.8
62.5°	98.4	99.4	99.4	99.4	99.4	99.4	99.4	100.5	101.5	102.5	103.5
65°	80.1	80.1	80.1	79.2	80.1	79.2	80.1	81.2	81.2	82.2	83.3
67.5°	61.9	61.9	59.9	59.9	60.9	60.9	60.9	60.9	59.9	61.9	61.9
70°	44.7	43.6	42.7	41.6	41.6	40.6	40.6	39.6	39.6	39.6	39.6
72.5°	29.4	27.4	25.4	24.3	23.4	23.4	21.3	20.2	21.3	21.3	21.3
75°	15.2	13.3	12.2	11.2	10.1	10.1	9.2	9.2	9.2	9.2	9.2
77.5°	6.1	5.1	4.1	4.1	3.0	3.0	3.0	3.0	3.0	3.0	3.0
80°	2.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
85°	1.0	0.0	0.0	1.0	0.0	1.0	1.0	1.0	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-HM80520935-81WWBB

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	679.0	679.0	679.0	679.0	679.0	679.0	679.0	679.0
2.5°	665.9	665.9	664.8	665.9	663.8	664.8	663.8	663.8
5°	650.6	648.5	648.5	648.5	647.6	647.6	646.6	646.6
7.5°	632.4	631.3	630.3	629.3	628.3	627.3	627.3	627.3
10°	614.1	612.0	612.0	611.1	609.0	608.0	608.0	608.0
12.5°	592.7	591.8	590.7	590.7	586.7	587.7	586.7	586.7
15°	572.5	571.4	571.4	568.4	566.4	566.4	566.4	565.4
17.5°	551.2	550.1	549.1	547.1	545.0	545.0	544.1	545.0
20°	528.9	527.8	525.7	525.7	524.8	523.7	521.8	522.7
22.5°	506.5	504.4	503.4	503.4	502.5	502.5	500.4	500.4
25°	483.1	482.1	481.2	482.1	480.1	480.1	478.0	478.0
27.5°	458.7	457.8	457.8	457.8	456.7	457.8	456.7	456.7
30°	434.4	434.4	433.4	433.4	434.4	433.4	434.4	435.5
32.5°	408.0	408.0	409.1	409.1	410.1	410.1	410.1	410.1
35°	380.7	382.7	382.7	383.7	384.6	385.7	385.7	386.7
37.5°	355.2	356.3	357.3	358.2	360.3	360.3	360.3	360.3
40°	327.9	328.8	330.9	329.9	333.9	335.0	333.9	333.9
42.5°	299.4	301.5	302.5	304.5	305.5	307.5	308.6	308.6
45°	273.1	274.0	276.1	278.1	279.1	282.2	282.2	282.2
47.5°	245.6	247.6	248.7	250.8	251.7	254.7	255.8	254.7
50°	219.2	221.2	223.3	223.3	226.3	227.4	229.4	230.4
52.5°	193.9	194.8	196.9	198.0	199.9	202.0	203.0	204.0
55°	169.5	170.5	172.6	172.6	175.6	176.7	178.7	178.7
57.5°	147.1	148.2	150.3	149.2	151.2	153.3	153.3	152.2
60°	125.8	125.8	125.8	127.9	128.9	129.9	131.0	131.0
62.5°	103.5	105.6	106.5	106.5	107.6	108.6	108.6	107.6
65°	83.3	85.3	86.3	86.3	87.2	87.2	87.2	88.3
67.5°	62.9	62.9	62.9	64.0	62.9	62.9	62.9	62.9
70°	39.6	39.6	39.6	39.6	38.6	39.6	39.6	40.6
72.5°	21.3	21.3	21.3	21.3	21.3	21.3	21.3	21.3
75°	9.2	9.2	9.2	10.1	9.2	9.2	9.2	9.2
77.5°	4.1	3.0	4.1	4.1	3.0	3.0	3.0	3.0
80°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
82.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
85°	0.0	1.0	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)