

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: P585236

Luminaire Tested: **HC880D010-HM86080835-81WWW**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P585236  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-16)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC880D010-HM86080835-81WWW  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6762.9 lumens  
Efficiency: N/A  
Efficacy: 96.6 lumens/watt  
Spacing Criteria (0/90/45): 1.09 / 1.04 / 1.13  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

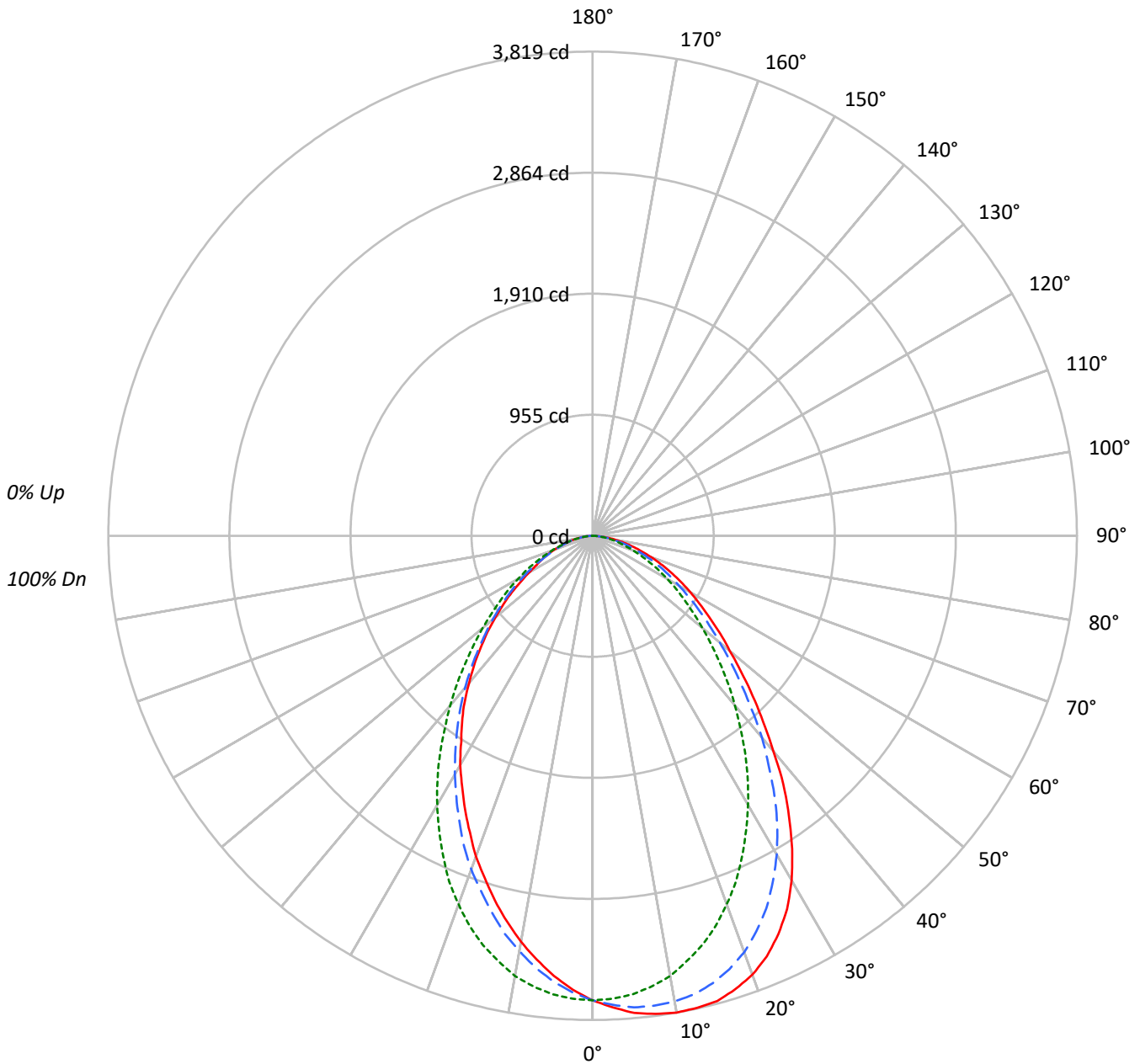
Input Watts (W): 70  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	110	106	103	99	108	104	101	98	100	97	95	96	94	92	93	91	89	87																			
2	102	95	89	84	99	93	88	83	90	85	81	86	83	79	83	80	78	76																			
3	94	85	78	72	92	83	77	71	81	75	70	78	73	69	75	71	68	66																			
4	87	76	69	63	85	75	68	62	73	67	62	71	65	61	68	64	60	58																			
5	81	69	61	55	79	68	61	55	66	60	54	64	59	54	63	57	53	51																			
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46																			
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	41																			
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38																			
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34																			
10	58	46	39	34	57	45	38	34	44	38	33	44	38	33	43	37	33	32																			

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

	0°	90°	180°
0°	112997	112997	112997
5°	116969	112354	107887
10°	119568	110384	101820
15°	121270	106665	95080
20°	120905	101485	88270
25°	117914	94907	81035
30°	111712	87279	74354
35°	101636	78985	67568
40°	89267	70251	61045
45°	77838	61799	54424
50°	67742	54147	47944
55°	60412	47584	41703
60°	54889	41703	35573
65°	49339	36278	32287
70°	43935	30925	29140
75°	38507	26068	24877
80°	32657	21203	22073
85°	24625	15815	17584



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	343.2	5.1
10°-20°	945.7	14.0
20°-30°	1312.7	19.4
30°-40°	1357.2	20.1
40°-50°	1136.4	16.8
50°-60°	825.0	12.2
60°-70°	520.6	7.7
70°-80°	257.9	3.8
80°-90°	64.1	0.9
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°	2601.7	38.5
0°-40°	3958.9	58.5
0°-60°	5920.3	87.5
0°-90°	6762.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6762.9	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	3664	3664	3664	3664	3664	
5°	3779	3734	3630	3530	3485	361
15°	3799	3654	3341	3073	2978	1069
25°	3466	3242	2789	2486	2382	1588
35°	2700	2501	2098	1860	1795	1681
45°	1785	1656	1417	1278	1248	1381
55°	1124	1024	885	810	776	1014
65°	676	592	497	438	442	674
75°	323	268	219	209	209	347
85°	70	55	45	50	50	85
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°	3664.4	3664.4	3664.4	3664.4	3664.4	3664.4	3664.4	3664.4	3664.4	3664.4	3664.4
2.5°	3724.1	3724.1	3729.1	3724.1	3724.1	3724.1	3719.1	3719.1	3714.2	3714.2	3704.2
5°	3778.8	3768.9	3778.8	3768.9	3768.9	3768.9	3763.9	3753.9	3748.9	3739.0	3734.1
7.5°	3803.6	3798.7	3798.7	3793.7	3793.7	3788.7	3783.8	3778.8	3758.9	3753.9	3739.0
10°	3818.6	3813.6	3813.6	3808.6	3798.7	3798.7	3788.7	3783.8	3758.9	3748.9	3729.1
12.5°	3813.6	3813.6	3813.6	3808.6	3793.7	3788.7	3778.8	3763.9	3744.0	3724.1	3704.2
15°	3798.7	3798.7	3788.7	3783.8	3768.9	3758.9	3753.9	3729.1	3709.2	3684.4	3654.5
17.5°	3748.9	3748.9	3744.0	3734.1	3719.1	3709.2	3699.2	3674.4	3654.5	3614.7	3584.8
20°	3684.4	3679.4	3674.4	3659.5	3644.5	3639.5	3624.7	3589.8	3565.0	3535.1	3495.4
22.5°	3589.8	3584.8	3580.0	3570.0	3545.1	3535.1	3525.3	3500.3	3455.6	3425.7	3376.0
25°	3465.6	3465.6	3455.6	3440.7	3415.9	3405.9	3390.9	3366.1	3326.3	3281.5	3241.8
27.5°	3321.4	3316.4	3301.5	3291.5	3271.7	3256.7	3231.8	3202.0	3162.3	3127.4	3077.7
30°	3137.4	3137.4	3127.4	3112.6	3087.7	3077.7	3057.9	3023.0	2983.2	2938.5	2903.7
32.5°	2928.5	2928.5	2913.6	2903.7	2888.8	2863.9	2859.0	2819.1	2784.4	2749.6	2709.7
35°	2699.9	2704.9	2694.9	2675.0	2650.2	2650.2	2640.2	2605.3	2565.6	2530.8	2500.9
37.5°	2471.1	2456.2	2451.2	2441.3	2426.4	2406.5	2396.5	2381.7	2346.8	2322.0	2277.2
40°	2217.6	2222.5	2212.6	2202.6	2197.6	2182.8	2177.8	2152.9	2128.1	2098.2	2078.4
42.5°	1988.8	1988.8	1988.8	1978.9	1969.0	1954.0	1949.0	1934.1	1904.3	1884.4	1854.6
45°	1784.9	1770.1	1770.1	1765.1	1760.1	1750.2	1735.2	1725.4	1705.4	1690.5	1655.7
47.5°	1586.1	1591.1	1586.1	1581.1	1566.2	1561.3	1556.3	1536.4	1516.5	1501.6	1476.7
50°	1412.1	1422.0	1412.1	1412.1	1402.2	1397.2	1387.2	1372.3	1357.4	1332.5	1307.7
52.5°	1267.8	1267.8	1263.0	1258.0	1243.0	1233.1	1228.1	1223.1	1198.3	1178.4	1158.4
55°	1123.7	1128.7	1128.7	1113.7	1108.7	1098.9	1093.9	1078.9	1069.0	1039.2	1024.2
57.5°	999.4	994.4	999.4	989.5	979.5	969.5	964.6	954.6	939.7	919.8	900.0
60°	890.0	880.1	880.1	875.1	865.1	860.1	850.3	835.3	820.4	800.6	785.6
62.5°	780.6	775.7	770.7	765.7	755.7	750.7	745.9	730.9	716.0	701.0	686.2
65°	676.2	676.2	671.2	661.3	656.3	651.3	646.3	636.5	616.5	606.6	591.6
67.5°	581.8	576.8	576.8	566.8	556.9	551.9	551.9	541.9	527.1	512.1	502.2
70°	487.3	492.2	487.3	482.3	472.4	472.4	462.4	457.4	437.6	432.6	417.7
72.5°	402.7	402.7	397.7	397.7	387.9	382.9	382.9	372.9	363.0	353.0	343.0
75°	323.2	323.2	323.2	318.2	313.2	303.3	303.3	298.3	288.3	278.5	268.5
77.5°	253.6	248.6	248.6	243.6	238.6	233.6	233.6	228.8	218.8	213.8	203.9
80°	183.9	178.9	178.9	178.9	169.1	174.1	169.1	164.1	159.1	154.1	149.2
82.5°	119.4	124.3	124.3	119.4	114.4	114.4	114.4	109.4	109.4	104.4	99.4
85°	69.6	69.6	69.6	69.6	64.7	64.7	64.7	59.7	59.7	59.7	54.7
87.5°	29.8	29.8	29.8	29.8	29.8	29.8	24.9	24.9	24.9	24.9	24.9
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°	3664.4	3664.4	3664.4	3664.4	3664.4	3664.4	3664.4	3664.4	3664.4	3664.4	3664.4
2.5°	3704.2	3694.2	3689.3	3684.4	3684.4	3679.4	3674.4	3664.4	3664.4	3654.5	3649.5
5°	3724.1	3709.2	3699.2	3689.3	3684.4	3674.4	3664.4	3649.5	3644.5	3629.7	3614.7
7.5°	3729.1	3704.2	3694.2	3674.4	3664.4	3654.5	3634.7	3619.7	3599.8	3584.8	3565.0
10°	3709.2	3689.3	3664.4	3639.5	3634.7	3619.7	3589.8	3570.0	3545.1	3525.3	3495.4
12.5°	3679.4	3649.5	3624.7	3594.8	3580.0	3565.0	3535.1	3505.3	3470.6	3435.7	3405.9
15°	3629.7	3594.8	3560.0	3525.3	3505.3	3490.4	3455.6	3420.8	3386.0	3341.2	3311.4
17.5°	3555.0	3515.3	3480.4	3435.7	3415.9	3400.9	3356.2	3316.4	3271.7	3226.9	3197.1
20°	3460.6	3410.9	3371.1	3321.4	3306.5	3281.5	3236.8	3192.1	3142.4	3092.6	3057.9
22.5°	3336.2	3286.5	3241.8	3192.1	3167.3	3142.4	3097.6	3042.9	2993.2	2953.5	2918.6
25°	3192.1	3147.3	3092.6	3047.9	3018.0	2988.2	2938.5	2893.8	2849.0	2789.4	2754.6
27.5°	3033.0	2978.3	2938.5	2878.8	2849.0	2829.1	2774.4	2714.7	2675.0	2620.3	2580.5
30°	2854.0	2804.3	2759.6	2699.9	2670.0	2650.2	2600.5	2545.8	2505.9	2451.2	2411.4
32.5°	2665.0	2610.3	2555.6	2515.9	2481.1	2461.2	2406.5	2371.7	2322.0	2277.2	2232.5
35°	2461.2	2406.5	2366.7	2312.0	2292.2	2272.3	2227.5	2182.8	2137.9	2098.2	2063.4
37.5°	2242.5	2202.6	2157.9	2118.1	2103.2	2083.2	2028.7	1988.8	1954.0	1914.3	1884.4
40°	2028.7	1993.8	1964.0	1924.2	1899.3	1884.4	1844.6	1809.9	1770.1	1745.2	1715.4
42.5°	1834.7	1794.9	1765.1	1735.2	1710.4	1695.5	1660.7	1635.8	1606.0	1581.1	1546.3
45°	1630.8	1611.0	1576.1	1551.3	1536.4	1516.5	1491.6	1461.8	1436.9	1417.1	1392.2
47.5°	1451.9	1431.9	1407.1	1377.2	1367.4	1352.4	1327.5	1307.7	1287.8	1267.8	1243.0
50°	1287.8	1263.0	1243.0	1223.1	1213.1	1198.3	1173.4	1163.4	1148.6	1128.7	1113.7
52.5°	1138.6	1118.7	1098.9	1074.0	1069.0	1059.0	1044.2	1024.2	1009.3	999.4	989.5
55°	1004.3	984.5	969.5	949.7	944.7	934.8	914.8	904.9	895.0	885.1	875.1
57.5°	885.1	865.1	845.3	835.3	825.4	815.4	810.4	795.6	785.6	780.6	770.7
60°	775.7	755.7	740.9	725.9	721.0	716.0	706.0	696.0	686.2	676.2	671.2
62.5°	671.2	651.3	641.3	631.5	621.5	621.5	611.6	601.6	591.6	586.7	576.8
65°	576.8	566.8	551.9	537.0	532.0	532.0	517.1	512.1	507.1	497.2	487.3
67.5°	487.3	477.3	462.4	457.4	452.4	447.5	442.5	432.6	422.6	417.7	407.7
70°	407.7	397.7	387.9	382.9	377.9	372.9	363.0	358.0	348.0	343.0	338.2
72.5°	328.2	323.2	313.2	308.3	303.3	298.3	293.3	288.3	278.5	273.5	268.5
75°	263.5	258.6	248.6	243.6	238.6	238.6	233.6	223.8	218.8	218.8	213.8
77.5°	198.9	193.9	188.9	183.9	178.9	178.9	174.1	169.1	164.1	164.1	159.1
80°	144.2	139.2	134.2	134.2	134.2	129.2	124.3	124.3	119.4	119.4	114.4
82.5°	94.5	94.5	89.5	89.5	89.5	84.5	84.5	79.5	79.5	79.5	79.5
85°	54.7	54.7	54.7	49.7	49.7	49.7	49.7	49.7	49.7	44.7	49.7
87.5°	24.9	24.9	24.9	24.9	24.9	24.9	24.9	24.9	19.9	19.9	19.9
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°	3664.4	3664.4	3664.4	3664.4	3664.4	3664.4	3664.4	3664.4	3664.4	3664.4	3664.4
2.5°	3644.5	3639.5	3629.7	3629.7	3619.7	3619.7	3614.7	3609.7	3604.8	3599.8	3594.8
5°	3609.7	3589.8	3580.0	3575.0	3565.0	3560.0	3545.1	3535.1	3530.1	3520.3	3510.3
7.5°	3545.1	3525.3	3505.3	3500.3	3495.4	3475.4	3460.6	3445.6	3435.7	3425.7	3415.9
10°	3470.6	3450.6	3425.7	3415.9	3405.9	3381.0	3361.2	3346.2	3326.3	3306.5	3301.5
12.5°	3381.0	3351.2	3321.4	3311.4	3296.5	3271.7	3251.8	3226.9	3212.0	3187.1	3182.1
15°	3276.6	3241.8	3217.0	3192.1	3182.1	3157.3	3122.4	3102.6	3072.7	3062.9	3037.9
17.5°	3152.3	3117.6	3082.7	3072.7	3057.9	3023.0	2988.2	2963.3	2933.5	2918.6	2903.7
20°	3023.0	2978.3	2943.5	2933.5	2913.6	2883.8	2849.0	2824.1	2799.3	2769.4	2754.6
22.5°	2873.8	2824.1	2794.3	2769.4	2764.4	2729.7	2689.9	2670.0	2650.2	2625.3	2605.3
25°	2709.7	2665.0	2630.2	2610.3	2600.5	2570.6	2540.8	2515.9	2486.1	2471.1	2446.2
27.5°	2540.8	2510.9	2466.1	2446.2	2431.4	2406.5	2371.7	2356.7	2327.0	2307.0	2292.2
30°	2376.7	2331.9	2307.0	2282.2	2267.3	2242.5	2212.6	2197.6	2172.8	2152.9	2137.9
32.5°	2197.6	2167.8	2133.1	2123.1	2103.2	2078.4	2058.4	2033.5	2013.7	1993.8	1988.8
35°	2033.5	1993.8	1959.0	1949.0	1934.1	1909.3	1899.3	1884.4	1859.6	1854.6	1834.7
37.5°	1854.6	1834.7	1794.9	1780.1	1775.1	1755.2	1735.2	1725.4	1710.4	1695.5	1690.5
40°	1685.5	1660.7	1640.8	1625.8	1616.0	1601.0	1581.1	1576.1	1566.2	1546.3	1541.3
42.5°	1526.4	1501.6	1481.7	1476.7	1461.8	1446.9	1436.9	1422.0	1417.1	1412.1	1402.2
45°	1372.3	1357.4	1337.5	1332.5	1327.5	1307.7	1297.7	1287.8	1277.8	1272.8	1263.0
47.5°	1233.1	1218.1	1203.3	1198.3	1188.3	1183.4	1168.4	1163.4	1148.6	1143.6	1138.6
50°	1098.9	1088.9	1078.9	1074.0	1064.0	1059.0	1049.1	1039.2	1029.2	1024.2	1019.3
52.5°	979.5	969.5	959.6	954.6	949.7	939.7	929.8	919.8	914.8	909.9	904.9
55°	865.1	855.2	850.3	845.3	840.3	835.3	820.4	815.4	810.4	805.4	795.6
57.5°	760.7	750.7	740.9	740.9	735.9	730.9	721.0	711.0	711.0	701.0	691.2
60°	666.3	656.3	646.3	641.3	636.5	626.5	621.5	616.5	611.6	606.6	596.6
62.5°	566.8	561.8	551.9	551.9	541.9	537.0	532.0	527.1	522.1	512.1	507.1
65°	482.3	477.3	467.4	462.4	462.4	457.4	447.5	442.5	437.6	437.6	432.6
67.5°	402.7	397.7	387.9	382.9	382.9	377.9	372.9	372.9	367.9	363.0	367.9
70°	333.2	323.2	323.2	318.2	318.2	313.2	308.3	308.3	308.3	313.2	313.2
72.5°	263.5	258.6	253.6	253.6	253.6	253.6	248.6	248.6	253.6	258.6	258.6
75°	208.8	203.9	203.9	203.9	198.9	198.9	203.9	203.9	208.8	208.8	208.8
77.5°	154.1	154.1	154.1	154.1	154.1	154.1	159.1	159.1	164.1	164.1	164.1
80°	114.4	114.4	114.4	114.4	114.4	119.4	119.4	119.4	119.4	119.4	124.3
82.5°	79.5	79.5	79.5	79.5	79.5	79.5	79.5	84.5	84.5	84.5	84.5
85°	44.7	49.7	49.7	49.7	49.7	49.7	49.7	49.7	49.7	49.7	49.7
87.5°	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





TEST NUMBER: P585236

CATALOG NUMBER: HC880D010-HM86080835-81WWW

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	3664.4	3664.4	3664.4	3664.4	3664.4	3664.4	3664.4	3664.4
2.5°	3589.8	3589.8	3589.8	3594.8	3584.8	3584.8	3584.8	3584.8
5°	3505.3	3500.3	3495.4	3500.3	3490.4	3490.4	3485.4	3485.4
7.5°	3400.9	3395.9	3390.9	3390.9	3381.0	3381.0	3376.0	3371.1
10°	3286.5	3276.6	3281.5	3271.7	3266.7	3261.7	3256.7	3251.8
12.5°	3162.3	3152.3	3147.3	3137.4	3127.4	3122.4	3127.4	3117.6
15°	3028.0	3013.0	3008.2	2998.2	2988.2	2983.2	2983.2	2978.3
17.5°	2878.8	2868.9	2863.9	2854.0	2849.0	2839.1	2834.1	2829.1
20°	2739.6	2714.7	2719.7	2709.7	2704.9	2684.9	2684.9	2689.9
22.5°	2585.5	2570.6	2560.6	2550.6	2545.8	2535.8	2535.8	2530.8
25°	2431.4	2416.4	2411.4	2401.5	2396.5	2386.6	2381.7	2381.7
27.5°	2282.2	2262.3	2262.3	2252.3	2242.5	2237.5	2232.5	2227.5
30°	2123.1	2108.2	2103.2	2103.2	2098.2	2098.2	2083.2	2088.2
32.5°	1974.0	1964.0	1959.0	1949.0	1949.0	1944.1	1944.1	1929.2
35°	1824.8	1809.9	1814.8	1804.9	1799.9	1794.9	1799.9	1794.9
37.5°	1680.5	1670.7	1670.7	1660.7	1660.7	1655.7	1650.7	1660.7
40°	1536.4	1531.4	1526.4	1521.4	1526.4	1521.4	1511.5	1516.5
42.5°	1392.2	1392.2	1387.2	1387.2	1382.2	1382.2	1382.2	1382.2
45°	1263.0	1258.0	1258.0	1253.0	1253.0	1253.0	1253.0	1248.0
47.5°	1133.6	1128.7	1128.7	1128.7	1123.7	1123.7	1118.7	1123.7
50°	1009.3	1009.3	1004.3	1004.3	1009.3	1004.3	999.4	999.4
52.5°	895.0	895.0	890.0	890.0	885.1	880.1	885.1	885.1
55°	790.6	785.6	780.6	780.6	775.7	770.7	770.7	775.7
57.5°	691.2	686.2	681.2	681.2	671.2	666.3	666.3	666.3
60°	596.6	586.7	586.7	581.8	581.8	576.8	576.8	576.8
62.5°	507.1	502.2	502.2	502.2	502.2	497.2	497.2	497.2
65°	432.6	432.6	432.6	437.6	437.6	442.5	442.5	442.5
67.5°	372.9	377.9	377.9	377.9	382.9	382.9	382.9	377.9
70°	318.2	318.2	318.2	323.2	323.2	323.2	323.2	323.2
72.5°	263.5	263.5	263.5	263.5	263.5	263.5	263.5	263.5
75°	208.8	213.8	213.8	213.8	208.8	213.8	213.8	208.8
77.5°	164.1	164.1	164.1	164.1	164.1	164.1	164.1	164.1
80°	124.3	124.3	124.3	124.3	124.3	124.3	124.3	124.3
82.5°	84.5	84.5	84.5	84.5	84.5	84.5	84.5	84.5
85°	49.7	49.7	49.7	49.7	49.7	49.7	49.7	49.7
87.5°	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9
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)