

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: P584522

Luminaire Tested: **HC840D010-HM82555827-81WWW**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584522
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: HC840D010-HM82555827-81WWW
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4207.4 lumens
Efficiency: N/A
Efficacy: 102.6 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

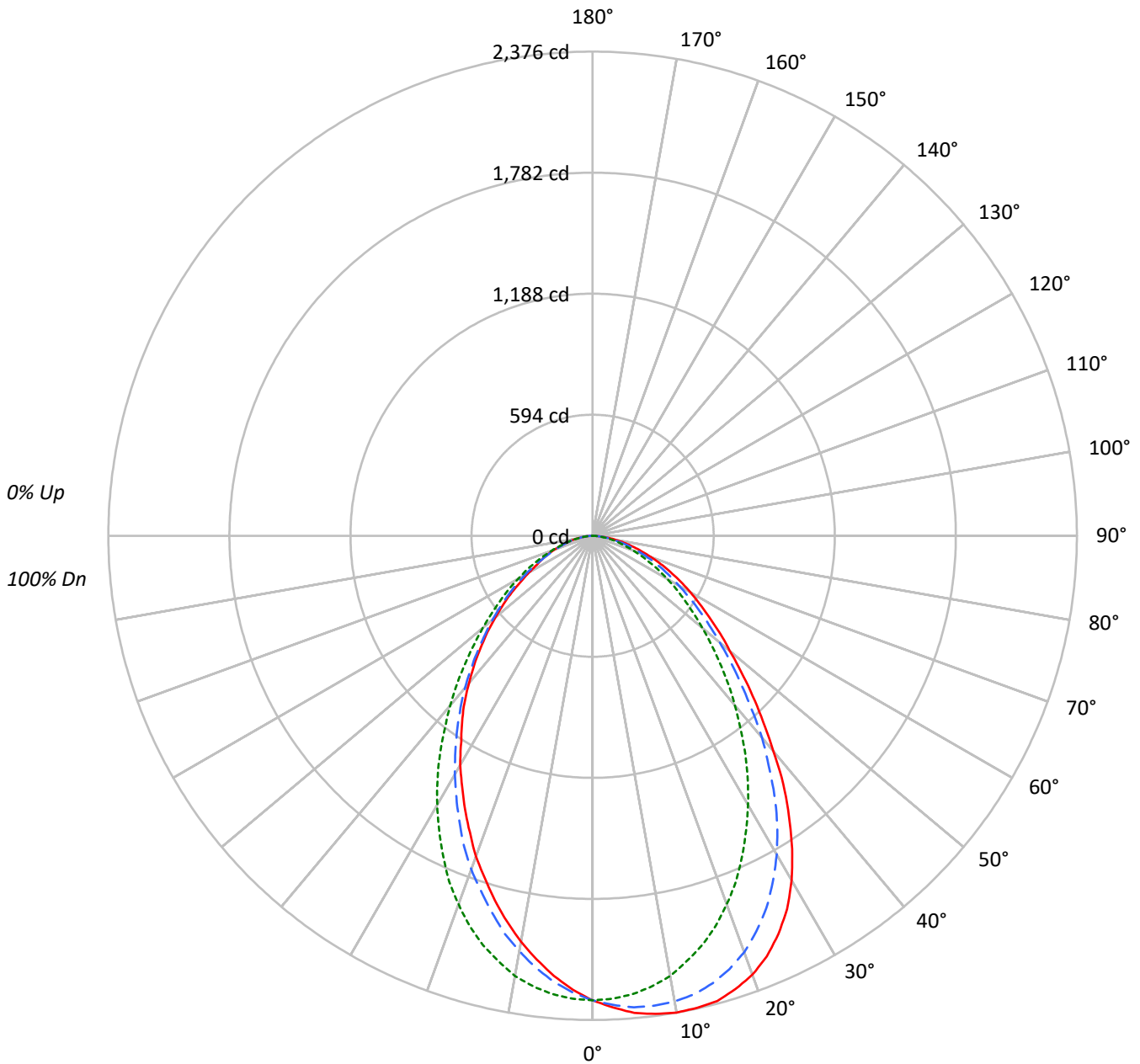
Input Watts (W): 41
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	70301	70301	70301
5°	72767	69897	67121
10°	74385	68674	63344
15°	75443	66361	59149
20°	75219	63137	54916
25°	73356	59045	50414
30°	69497	54300	46257
35°	63231	49137	42037
40°	55534	43708	37976
45°	48428	38446	33862
50°	42144	33686	29829
55°	37585	29601	25940
60°	34148	25946	22128
65°	30696	22568	20080
70°	27327	19249	18131
75°	23960	16215	15477
80°	20333	13194	13745
85°	15320	9836	10933



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	213.5	5.1
10°-20°	588.4	14.0
20°-30°	816.7	19.4
30°-40°	844.4	20.1
40°-50°	707.0	16.8
50°-60°	513.2	12.2
60°-70°	323.9	7.7
70°-80°	160.5	3.8
80°-90°	39.9	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°	1618.6	38.5
0°-40°	2462.9	58.5
0°-60°	3683.2	87.5
0°-90°	4207.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4207.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2280	2280	2280	2280	2280	
5°	2351	2323	2258	2196	2168	225
15°	2363	2274	2079	1912	1853	665
25°	2156	2017	1735	1547	1482	988
35°	1680	1556	1305	1157	1117	1046
45°	1110	1030	882	795	776	859
55°	699	637	551	504	482	631
65°	421	368	309	272	275	419
75°	201	167	136	130	130	216
85°	43	34	28	31	31	53
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°	2279.8	2279.8	2279.8	2279.8	2279.8	2279.8	2279.8	2279.8	2279.8	2279.8	2279.8
2.5°	2316.9	2316.9	2320.0	2316.9	2316.9	2316.9	2313.8	2313.8	2310.7	2310.7	2304.6
5°	2350.8	2344.7	2350.8	2344.7	2344.7	2344.7	2341.6	2335.4	2332.3	2326.2	2323.1
7.5°	2366.3	2363.2	2363.2	2360.1	2360.1	2357.0	2353.9	2350.8	2338.5	2335.4	2326.2
10°	2375.6	2372.5	2372.5	2369.4	2363.2	2363.2	2357.0	2353.9	2338.5	2332.3	2320.0
12.5°	2372.5	2372.5	2372.5	2369.4	2360.1	2357.0	2350.8	2341.6	2329.3	2316.9	2304.6
15°	2363.2	2363.2	2357.0	2353.9	2344.7	2338.5	2335.4	2320.0	2307.6	2292.2	2273.6
17.5°	2332.3	2332.3	2329.3	2323.1	2313.8	2307.6	2301.5	2286.0	2273.6	2248.9	2230.3
20°	2292.2	2289.1	2286.0	2276.7	2267.4	2264.3	2255.0	2233.4	2217.9	2199.4	2174.6
22.5°	2233.4	2230.3	2227.2	2221.0	2205.5	2199.4	2193.2	2177.7	2149.9	2131.3	2100.4
25°	2156.0	2156.0	2149.9	2140.6	2125.1	2118.9	2109.6	2094.2	2069.4	2041.6	2016.8
27.5°	2066.3	2063.2	2053.9	2047.8	2035.4	2026.1	2010.6	1992.1	1967.3	1945.6	1914.7
30°	1951.8	1951.8	1945.6	1936.4	1920.9	1914.7	1902.3	1880.7	1855.9	1828.1	1806.5
32.5°	1821.9	1821.9	1812.6	1806.5	1797.3	1781.8	1778.7	1753.9	1732.3	1710.6	1685.9
35°	1679.7	1682.8	1676.6	1664.2	1648.7	1648.7	1642.6	1620.9	1596.1	1574.5	1555.9
37.5°	1537.4	1528.1	1525.0	1518.8	1509.5	1497.1	1491.0	1481.7	1460.0	1444.5	1416.7
40°	1379.6	1382.7	1376.5	1370.3	1367.2	1357.9	1354.8	1339.3	1323.9	1305.3	1293.1
42.5°	1237.4	1237.4	1237.4	1231.2	1225.0	1215.7	1212.6	1203.3	1184.8	1172.4	1153.8
45°	1110.5	1101.2	1101.2	1098.1	1095.0	1088.8	1079.6	1073.4	1061.0	1051.7	1030.1
47.5°	986.7	989.8	986.7	983.7	974.4	971.3	968.2	955.8	943.4	934.2	918.7
50°	878.5	884.6	878.5	878.5	872.3	869.2	863.0	853.7	844.4	829.0	813.5
52.5°	788.7	788.7	785.6	782.5	773.4	767.2	764.1	761.0	745.5	733.2	720.8
55°	699.1	702.2	702.2	692.9	689.8	683.7	680.6	671.3	665.1	646.5	637.2
57.5°	621.8	618.7	621.8	615.6	609.4	603.2	600.1	593.9	584.6	572.3	559.9
60°	553.7	547.5	547.5	544.4	538.2	535.1	529.0	519.7	510.4	498.0	488.7
62.5°	485.6	482.5	479.5	476.4	470.2	467.1	464.0	454.7	445.4	436.1	426.9
65°	420.7	420.7	417.6	411.4	408.3	405.2	402.1	395.9	383.5	377.3	368.1
67.5°	361.9	358.8	358.8	352.6	346.4	343.3	343.3	337.1	327.8	318.6	312.4
70°	303.1	306.2	303.1	300.0	293.8	293.8	287.6	284.5	272.2	269.1	259.8
72.5°	250.6	250.6	247.5	247.5	241.3	238.2	238.2	232.0	225.9	219.7	213.5
75°	201.1	201.1	201.1	198.0	194.9	188.7	188.7	185.6	179.5	173.3	167.1
77.5°	157.8	154.7	154.7	151.6	148.5	145.4	145.4	142.3	136.1	133.0	126.9
80°	114.5	111.4	111.4	111.4	105.2	108.3	105.2	102.1	99.0	95.9	92.8
82.5°	74.3	77.4	77.4	74.3	71.2	71.2	71.2	68.1	68.1	65.0	61.9
85°	43.3	43.3	43.3	43.3	40.2	40.2	40.2	37.1	37.1	37.1	34.0
87.5°	18.6	18.6	18.6	18.6	18.6	18.6	15.5	15.5	15.5	15.5	15.5
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°	2279.8	2279.8	2279.8	2279.8	2279.8	2279.8	2279.8	2279.8	2279.8	2279.8	2279.8
2.5°	2304.6	2298.4	2295.3	2292.2	2292.2	2289.1	2286.0	2279.8	2279.8	2273.6	2270.5
5°	2316.9	2307.6	2301.5	2295.3	2292.2	2286.0	2279.8	2270.5	2267.4	2258.1	2248.9
7.5°	2320.0	2304.6	2298.4	2286.0	2279.8	2273.6	2261.2	2252.0	2239.6	2230.3	2217.9
10°	2307.6	2295.3	2279.8	2264.3	2261.2	2252.0	2233.4	2221.0	2205.5	2193.2	2174.6
12.5°	2289.1	2270.5	2255.0	2236.5	2227.2	2217.9	2199.4	2180.8	2159.1	2137.5	2118.9
15°	2258.1	2236.5	2214.8	2193.2	2180.8	2171.5	2149.9	2128.2	2106.5	2078.7	2060.1
17.5°	2211.7	2187.0	2165.3	2137.5	2125.1	2115.8	2088.0	2063.2	2035.4	2007.5	1989.0
20°	2152.9	2122.0	2097.3	2066.3	2057.0	2041.6	2013.7	1985.9	1954.9	1924.0	1902.3
22.5°	2075.6	2044.7	2016.8	1985.9	1970.4	1954.9	1927.1	1893.1	1862.1	1837.4	1815.7
25°	1985.9	1958.0	1924.0	1896.1	1877.6	1859.0	1828.1	1800.4	1772.5	1735.4	1713.7
27.5°	1886.9	1852.8	1828.1	1791.1	1772.5	1760.1	1726.1	1689.0	1664.2	1630.2	1605.4
30°	1775.6	1744.7	1716.8	1679.7	1661.1	1648.7	1617.8	1583.8	1559.0	1525.0	1500.2
32.5°	1658.0	1624.0	1590.0	1565.2	1543.5	1531.2	1497.1	1475.5	1444.5	1416.7	1388.8
35°	1531.2	1497.1	1472.4	1438.4	1426.0	1413.6	1385.8	1357.9	1330.1	1305.3	1283.8
37.5°	1395.0	1370.3	1342.4	1317.7	1308.4	1296.0	1262.1	1237.4	1215.7	1191.0	1172.4
40°	1262.1	1240.5	1221.9	1197.1	1181.7	1172.4	1147.6	1126.0	1101.2	1085.8	1067.2
42.5°	1141.4	1116.7	1098.1	1079.6	1064.1	1054.8	1033.2	1017.7	999.1	983.7	962.0
45°	1014.6	1002.2	980.6	965.1	955.8	943.4	928.0	909.4	893.9	881.6	866.1
47.5°	903.2	890.8	875.4	856.8	850.6	841.3	825.9	813.5	801.1	788.7	773.4
50°	801.1	785.6	773.4	761.0	754.8	745.5	730.1	723.9	714.6	702.2	692.9
52.5°	708.4	696.0	683.7	668.2	665.1	658.9	649.6	637.2	628.0	621.8	615.6
55°	624.9	612.5	603.2	590.8	587.7	581.6	569.2	563.0	556.8	550.6	544.4
57.5°	550.6	538.2	525.9	519.7	513.5	507.3	504.2	494.9	488.7	485.6	479.5
60°	482.5	470.2	460.9	451.6	448.5	445.4	439.2	433.0	426.9	420.7	417.6
62.5°	417.6	405.2	399.0	392.8	386.6	386.6	380.4	374.3	368.1	365.0	358.8
65°	358.8	352.6	343.3	334.0	330.9	330.9	321.7	318.6	315.5	309.3	303.1
67.5°	303.1	296.9	287.6	284.5	281.4	278.3	275.2	269.1	262.9	259.8	253.7
70°	253.7	247.5	241.3	238.2	235.1	232.0	225.9	222.8	216.6	213.5	210.4
72.5°	204.2	201.1	194.9	191.8	188.7	185.6	182.5	179.5	173.3	170.2	167.1
75°	164.0	160.9	154.7	151.6	148.5	148.5	145.4	139.2	136.1	136.1	133.0
77.5°	123.8	120.7	117.6	114.5	111.4	111.4	108.3	105.2	102.1	102.1	99.0
80°	89.7	86.6	83.5	83.5	83.5	80.4	77.4	77.4	74.3	74.3	71.2
82.5°	58.8	58.8	55.7	55.7	55.7	52.6	52.6	49.5	49.5	49.5	49.5
85°	34.0	34.0	34.0	30.9	30.9	30.9	30.9	30.9	30.9	27.8	30.9
87.5°	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	12.4	12.4	12.4
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°	2279.8	2279.8	2279.8	2279.8	2279.8	2279.8	2279.8	2279.8	2279.8	2279.8	2279.8
2.5°	2267.4	2264.3	2258.1	2258.1	2252.0	2252.0	2248.9	2245.8	2242.7	2239.6	2236.5
5°	2245.8	2233.4	2227.2	2224.1	2217.9	2214.8	2205.5	2199.4	2196.3	2190.1	2183.9
7.5°	2205.5	2193.2	2180.8	2177.7	2174.6	2162.2	2152.9	2143.7	2137.5	2131.3	2125.1
10°	2159.1	2146.8	2131.3	2125.1	2118.9	2103.4	2091.1	2081.8	2069.4	2057.0	2053.9
12.5°	2103.4	2084.9	2066.3	2060.1	2050.8	2035.4	2023.0	2007.5	1998.2	1982.8	1979.7
15°	2038.5	2016.8	2001.3	1985.9	1979.7	1964.2	1942.6	1930.2	1911.6	1905.4	1890.0
17.5°	1961.1	1939.5	1917.8	1911.6	1902.3	1880.7	1859.0	1843.5	1825.0	1815.7	1806.5
20°	1880.7	1852.8	1831.2	1825.0	1812.6	1794.2	1772.5	1757.0	1741.6	1723.0	1713.7
22.5°	1788.0	1757.0	1738.5	1723.0	1719.9	1698.2	1673.5	1661.1	1648.7	1633.3	1620.9
25°	1685.9	1658.0	1636.4	1624.0	1617.8	1599.2	1580.7	1565.2	1546.6	1537.4	1521.9
27.5°	1580.7	1562.1	1534.3	1521.9	1512.6	1497.1	1475.5	1466.2	1447.6	1435.3	1426.0
30°	1478.6	1450.7	1435.3	1419.8	1410.5	1395.0	1376.5	1367.2	1351.7	1339.3	1330.1
32.5°	1367.2	1348.6	1327.0	1320.8	1308.4	1293.1	1280.7	1265.2	1252.8	1240.5	1237.4
35°	1265.2	1240.5	1218.8	1212.6	1203.3	1187.9	1181.7	1172.4	1156.9	1153.8	1141.4
37.5°	1153.8	1141.4	1116.7	1107.4	1104.3	1091.9	1079.6	1073.4	1064.1	1054.8	1051.7
40°	1048.6	1033.2	1020.8	1011.5	1005.3	996.0	983.7	980.6	974.4	962.0	958.9
42.5°	949.6	934.2	921.8	918.7	909.4	900.1	893.9	884.6	881.6	878.5	872.3
45°	853.7	844.4	832.0	829.0	825.9	813.5	807.3	801.1	794.9	791.8	785.6
47.5°	767.2	757.9	748.6	745.5	739.3	736.3	727.0	723.9	714.6	711.5	708.4
50°	683.7	677.5	671.3	668.2	662.0	658.9	652.7	646.5	640.3	637.2	634.2
52.5°	609.4	603.2	597.0	593.9	590.8	584.6	578.5	572.3	569.2	566.1	563.0
55°	538.2	532.0	529.0	525.9	522.8	519.7	510.4	507.3	504.2	501.1	494.9
57.5°	473.3	467.1	460.9	460.9	457.8	454.7	448.5	442.3	442.3	436.1	429.9
60°	414.5	408.3	402.1	399.0	395.9	389.7	386.6	383.5	380.4	377.3	371.2
62.5°	352.6	349.5	343.3	343.3	337.1	334.0	330.9	327.8	324.8	318.6	315.5
65°	300.0	296.9	290.7	287.6	287.6	284.5	278.3	275.2	272.2	272.2	269.1
67.5°	250.6	247.5	241.3	238.2	238.2	235.1	232.0	232.0	229.0	225.9	229.0
70°	207.3	201.1	201.1	198.0	198.0	194.9	191.8	191.8	191.8	194.9	194.9
72.5°	164.0	160.9	157.8	157.8	157.8	157.8	154.7	154.7	157.8	160.9	160.9
75°	129.9	126.9	126.9	126.9	123.8	123.8	126.9	126.9	129.9	129.9	129.9
77.5°	95.9	95.9	95.9	95.9	95.9	95.9	99.0	99.0	102.1	102.1	102.1
80°	71.2	71.2	71.2	71.2	71.2	74.3	74.3	74.3	74.3	74.3	77.4
82.5°	49.5	49.5	49.5	49.5	49.5	49.5	49.5	52.6	52.6	52.6	52.6
85°	27.8	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9
87.5°	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4
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: P584522

CATALOG NUMBER: HC840D010-HM82555827-81WWW

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2279.8	2279.8	2279.8	2279.8	2279.8	2279.8	2279.8	2279.8
2.5°	2233.4	2233.4	2233.4	2236.5	2230.3	2230.3	2230.3	2230.3
5°	2180.8	2177.7	2174.6	2177.7	2171.5	2171.5	2168.4	2168.4
7.5°	2115.8	2112.7	2109.6	2109.6	2103.4	2103.4	2100.4	2097.3
10°	2044.7	2038.5	2041.6	2035.4	2032.3	2029.2	2026.1	2023.0
12.5°	1967.3	1961.1	1958.0	1951.8	1945.6	1942.6	1945.6	1939.5
15°	1883.8	1874.5	1871.4	1865.2	1859.0	1855.9	1855.9	1852.8
17.5°	1791.1	1784.9	1781.8	1775.6	1772.5	1766.3	1763.2	1760.1
20°	1704.4	1689.0	1692.1	1685.9	1682.8	1670.4	1670.4	1673.5
22.5°	1608.5	1599.2	1593.1	1586.9	1583.8	1577.6	1577.6	1574.5
25°	1512.6	1503.3	1500.2	1494.0	1491.0	1484.8	1481.7	1481.7
27.5°	1419.8	1407.4	1407.4	1401.2	1395.0	1391.9	1388.8	1385.8
30°	1320.8	1311.5	1308.4	1308.4	1305.3	1305.3	1296.0	1299.1
32.5°	1228.1	1221.9	1218.8	1212.6	1212.6	1209.5	1209.5	1200.2
35°	1135.3	1126.0	1129.1	1122.9	1119.8	1116.7	1119.8	1116.7
37.5°	1045.5	1039.3	1039.3	1033.2	1033.2	1030.1	1027.0	1033.2
40°	955.8	952.7	949.6	946.5	949.6	946.5	940.3	943.4
42.5°	866.1	866.1	863.0	863.0	859.9	859.9	859.9	859.9
45°	785.6	782.5	782.5	779.4	779.4	779.4	779.4	776.5
47.5°	705.3	702.2	702.2	702.2	699.1	699.1	696.0	699.1
50°	628.0	628.0	624.9	624.9	628.0	624.9	621.8	621.8
52.5°	556.8	556.8	553.7	553.7	550.6	547.5	550.6	550.6
55°	491.8	488.7	485.6	485.6	482.5	479.5	479.5	482.5
57.5°	429.9	426.9	423.8	423.8	417.6	414.5	414.5	414.5
60°	371.2	365.0	365.0	361.9	361.9	358.8	358.8	358.8
62.5°	315.5	312.4	312.4	312.4	312.4	309.3	309.3	309.3
65°	269.1	269.1	269.1	272.2	272.2	275.2	275.2	275.2
67.5°	232.0	235.1	235.1	235.1	238.2	238.2	238.2	235.1
70°	198.0	198.0	198.0	201.1	201.1	201.1	201.1	201.1
72.5°	164.0	164.0	164.0	164.0	164.0	164.0	164.0	164.0
75°	129.9	133.0	133.0	133.0	129.9	133.0	133.0	129.9
77.5°	102.1	102.1	102.1	102.1	102.1	102.1	102.1	102.1
80°	77.4	77.4	77.4	77.4	77.4	77.4	77.4	77.4
82.5°	52.6	52.6	52.6	52.6	52.6	52.6	52.6	52.6
85°	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9
87.5°	12.4	12.4	12.4	12.4	12.4	12.4	12.4	12.4
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)