

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: P584429

Luminaire Tested: **HC835D010-HM82555840-81RWWC**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584429  
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: HC835D010-HM82555840-81RWWC  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4262.7 lumens  
Efficiency: N/A  
Efficacy: 126.5 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

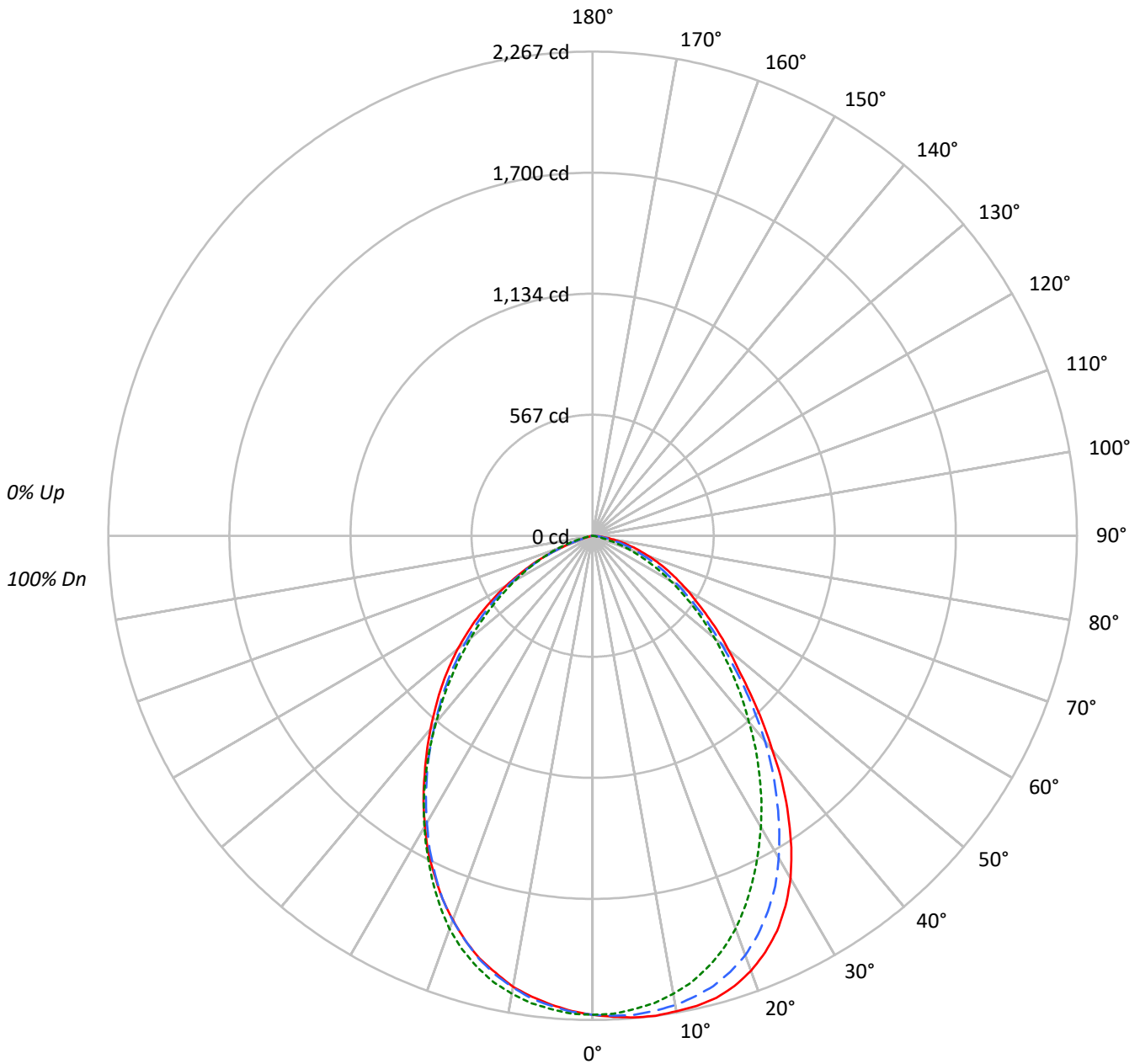
Input Watts (W): 33.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	84	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°	69163	69163	69163
5°	70071	68870	68223
10°	70787	68166	67136
15°	71507	66728	65387
20°	71144	64266	62789
25°	69484	60417	59600
30°	65997	56084	55870
35°	60084	51177	51629
40°	52676	45805	47492
45°	45441	40744	43613
50°	39793	35769	39506
55°	35257	30746	34773
60°	31761	25853	28807
65°	28617	20759	22072
70°	25109	15120	12153
75°	21410	7851	3217
80°	16479	2131	533
85°	10614	0	0



TEST NUMBER: P584429

CATALOG NUMBER: HC835D010-HM82555840-81RWWC

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	211.6	5.0
10°-20°	594.9	14.0
20°-30°	844.3	19.8
30°-40°	888.8	20.9
40°-50°	756.1	17.7
50°-60°	546.4	12.8
60°-70°	310.8	7.3
70°-80°	97.9	2.3
80°-90°	11.9	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°	1650.8	38.7
0°-40°	2539.6	59.6
0°-60°	3842.1	90.1
0°-90°	4262.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4262.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2243	2243	2243	2243	2243	
5°	2264	2252	2225	2210	2204	216
15°	2240	2183	2090	2051	2048	631
25°	2042	1940	1776	1746	1752	935
35°	1596	1503	1360	1350	1372	993
45°	1042	1003	934	958	1000	810
55°	656	608	572	605	647	591
65°	392	338	284	282	302	389
75°	180	138	66	30	27	193
85°	30	18	0	0	0	39
90°	0	0	0	0	0	



TEST NUMBER: P584429

CATALOG NUMBER: HC835D010-HM82555840-81RWWC

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2242.9	2242.9	2242.9	2242.9	2242.9	2242.9	2242.9	2242.9	2242.9	2242.9	2242.9
2.5°	2254.8	2257.8	2251.8	2251.8	2257.8	2251.8	2254.8	2254.8	2251.8	2251.8	2248.8
5°	2263.7	2260.7	2260.7	2260.7	2263.7	2257.8	2254.8	2257.8	2251.8	2251.8	2251.8
7.5°	2266.7	2266.7	2263.7	2260.7	2260.7	2260.7	2257.8	2254.8	2251.8	2245.8	2242.9
10°	2260.7	2260.7	2263.7	2257.8	2257.8	2251.8	2251.8	2245.8	2245.8	2239.9	2230.9
12.5°	2254.8	2251.8	2251.8	2245.8	2245.8	2239.9	2239.9	2230.9	2227.9	2218.9	2210.0
15°	2239.9	2236.9	2230.9	2227.9	2224.9	2221.9	2215.9	2212.9	2204.0	2192.0	2183.0
17.5°	2210.0	2207.0	2204.0	2198.0	2192.0	2189.0	2186.0	2177.0	2165.0	2156.0	2141.1
20°	2168.0	2165.0	2165.0	2156.0	2153.0	2144.1	2141.1	2129.1	2120.1	2102.1	2090.2
22.5°	2111.1	2114.1	2108.1	2102.1	2096.1	2087.2	2081.2	2069.2	2054.2	2036.2	2021.3
25°	2042.2	2045.2	2039.2	2033.2	2024.3	2018.3	2012.3	1994.3	1979.3	1958.4	1940.4
27.5°	1955.4	1955.4	1955.4	1949.4	1934.4	1931.4	1925.4	1907.5	1886.5	1868.5	1850.6
30°	1853.5	1850.6	1850.6	1841.6	1835.6	1823.6	1814.6	1799.6	1784.7	1763.7	1742.7
32.5°	1730.8	1733.7	1724.8	1718.8	1709.8	1709.8	1697.8	1685.8	1667.9	1646.9	1625.9
35°	1596.1	1599.1	1593.1	1590.1	1575.1	1572.1	1569.1	1554.2	1542.2	1527.2	1503.3
37.5°	1458.3	1455.3	1452.3	1452.3	1443.4	1437.4	1431.4	1422.4	1404.4	1392.4	1380.5
40°	1308.6	1308.6	1308.6	1305.6	1302.6	1296.6	1293.6	1287.6	1275.6	1263.7	1254.7
42.5°	1173.8	1173.8	1170.8	1167.8	1161.8	1164.8	1158.8	1152.8	1140.9	1131.9	1125.9
45°	1042.0	1042.0	1042.0	1045.0	1039.0	1030.0	1030.0	1024.1	1018.1	1012.1	1003.1
47.5°	925.3	934.3	928.3	925.3	928.3	916.4	916.4	910.4	904.4	898.4	886.4
50°	829.5	829.5	829.5	823.5	820.5	820.5	811.5	805.5	802.5	796.6	784.6
52.5°	742.6	736.7	736.7	733.7	730.7	724.7	724.7	718.7	706.7	700.7	691.7
55°	655.8	655.8	652.8	649.8	646.8	643.8	640.8	631.8	625.8	616.9	607.9
57.5°	577.9	583.9	580.9	574.9	568.9	568.9	562.9	557.0	548.0	539.0	530.0
60°	515.0	512.0	512.0	509.0	503.0	500.0	497.1	488.1	479.1	470.1	461.1
62.5°	449.1	449.1	449.1	443.1	437.2	434.2	431.2	425.2	413.2	404.2	398.2
65°	392.2	389.2	386.2	383.2	380.2	374.3	371.3	365.3	356.3	347.3	338.3
67.5°	335.3	332.3	332.3	329.3	320.5	317.5	317.5	308.5	299.5	290.5	281.5
70°	278.5	278.5	278.5	272.5	269.6	266.6	263.6	257.6	248.6	239.6	230.6
72.5°	230.6	227.6	227.6	224.6	215.6	212.6	209.6	203.7	194.7	188.7	182.7
75°	179.7	179.7	176.7	173.7	170.7	167.7	164.7	158.7	149.8	140.8	137.8
77.5°	137.8	134.8	134.8	131.8	125.8	122.8	122.8	116.8	107.8	101.8	95.8
80°	92.8	95.8	92.8	89.8	86.9	83.9	80.9	77.9	71.9	65.9	59.9
82.5°	56.9	59.9	56.9	56.9	53.9	50.9	50.9	44.9	41.9	38.9	35.9
85°	30.0	30.0	30.0	30.0	27.0	27.0	27.0	24.0	21.0	18.0	18.0
87.5°	9.0	12.0	9.0	9.0	9.0	9.0	9.0	9.0	6.0	6.0	6.0
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: P584429

CATALOG NUMBER: HC835D010-HM82555840-81RWWC

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2242.9	2242.9	2242.9	2242.9	2242.9	2242.9	2242.9	2242.9	2242.9	2242.9	2242.9
2.5°	2251.8	2248.8	2245.8	2245.8	2245.8	2245.8	2245.8	2242.9	2239.9	2239.9	2239.9
5°	2245.8	2245.8	2245.8	2242.9	2239.9	2239.9	2233.9	2230.9	2227.9	2224.9	2221.9
7.5°	2239.9	2233.9	2230.9	2227.9	2224.9	2224.9	2218.9	2212.9	2212.9	2207.0	2201.0
10°	2221.9	2218.9	2212.9	2207.0	2204.0	2201.0	2195.0	2186.0	2183.0	2177.0	2171.0
12.5°	2201.0	2195.0	2189.0	2177.0	2174.0	2171.0	2159.0	2150.1	2144.1	2141.1	2126.1
15°	2174.0	2162.0	2153.0	2138.1	2135.1	2129.1	2120.1	2111.1	2099.1	2090.2	2084.2
17.5°	2126.1	2114.1	2099.1	2084.2	2078.2	2078.2	2063.2	2051.2	2036.2	2030.3	2018.3
20°	2069.2	2054.2	2042.2	2024.3	2015.3	2006.3	1997.3	1979.3	1967.4	1958.4	1943.4
22.5°	2003.3	1982.3	1967.4	1949.4	1934.4	1925.4	1910.5	1895.5	1880.5	1871.5	1859.5
25°	1919.4	1901.5	1877.5	1859.5	1850.6	1838.6	1820.6	1805.6	1790.7	1775.7	1769.7
27.5°	1826.6	1802.6	1781.7	1760.7	1751.7	1742.7	1721.8	1703.8	1691.8	1676.8	1670.9
30°	1724.8	1700.8	1676.8	1658.9	1649.9	1634.9	1622.9	1602.1	1587.1	1575.1	1560.2
32.5°	1608.0	1590.1	1569.1	1542.2	1536.2	1524.2	1506.2	1497.3	1479.3	1470.3	1458.3
35°	1482.3	1470.3	1449.3	1428.4	1419.4	1413.4	1398.4	1380.5	1368.5	1359.5	1353.5
37.5°	1362.5	1347.5	1326.5	1311.6	1305.6	1296.6	1278.6	1269.6	1257.7	1251.7	1239.7
40°	1233.7	1218.7	1203.8	1194.8	1185.8	1179.8	1167.8	1158.8	1146.8	1137.9	1134.9
42.5°	1107.9	1098.9	1086.9	1075.0	1072.0	1063.0	1057.0	1048.0	1039.0	1036.0	1027.0
45°	994.1	985.1	973.1	961.3	958.3	952.3	949.3	940.3	934.3	934.3	934.3
47.5°	880.4	871.4	859.4	853.5	856.5	844.5	844.5	841.5	835.5	835.5	838.5
50°	778.6	766.6	763.6	757.6	751.6	745.6	748.6	739.6	739.6	745.6	742.6
52.5°	682.7	670.8	667.8	661.8	658.8	658.8	655.8	655.8	652.8	655.8	655.8
55°	595.9	586.9	580.9	574.9	571.9	571.9	571.9	568.9	565.9	571.9	574.9
57.5°	518.0	515.0	509.0	500.0	497.1	494.1	491.1	491.1	491.1	491.1	494.1
60°	449.1	443.1	437.2	428.2	428.2	425.2	422.2	419.2	419.2	419.2	419.2
62.5°	389.2	380.2	371.3	365.3	362.3	359.3	356.3	350.3	350.3	350.3	350.3
65°	329.3	320.5	314.5	308.5	302.5	302.5	296.5	293.5	287.5	284.5	278.5
67.5°	272.5	266.6	260.6	251.6	248.6	245.6	239.6	236.6	227.6	224.6	221.6
70°	221.6	212.6	206.7	200.7	197.7	191.7	185.7	179.7	173.7	167.7	161.7
72.5°	173.7	164.7	158.7	152.7	146.8	146.8	137.8	131.8	122.8	116.8	107.8
75°	128.8	119.8	113.8	104.8	101.8	98.8	89.8	83.9	74.9	65.9	59.9
77.5°	86.9	80.9	74.9	65.9	59.9	59.9	50.9	44.9	38.9	30.0	27.0
80°	53.9	47.9	41.9	35.9	35.9	30.0	27.0	21.0	15.0	12.0	9.0
82.5°	30.0	27.0	24.0	18.0	18.0	15.0	12.0	9.0	6.0	3.0	3.0
85°	15.0	12.0	9.0	9.0	6.0	6.0	6.0	3.0	3.0	0.0	0.0
87.5°	6.0	3.0	3.0	3.0	3.0	3.0	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



TEST NUMBER: P584429

CATALOG NUMBER: HC835D010-HM82555840-81RWWC

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2242.9	2242.9	2242.9	2242.9	2242.9	2242.9	2242.9	2242.9	2242.9	2242.9	2242.9
2.5°	2236.9	2236.9	2233.9	2233.9	2233.9	2230.9	2233.9	2230.9	2230.9	2230.9	2233.9
5°	2224.9	2218.9	2218.9	2215.9	2215.9	2212.9	2215.9	2212.9	2210.0	2207.0	2210.0
7.5°	2201.0	2195.0	2192.0	2189.0	2189.0	2189.0	2186.0	2183.0	2186.0	2177.0	2183.0
10°	2168.0	2165.0	2159.0	2156.0	2153.0	2156.0	2153.0	2147.1	2147.1	2147.1	2144.1
12.5°	2126.1	2120.1	2117.1	2114.1	2108.1	2108.1	2111.1	2105.1	2105.1	2099.1	2099.1
15°	2075.2	2069.2	2063.2	2063.2	2057.2	2057.2	2054.2	2054.2	2051.2	2048.2	2048.2
17.5°	2012.3	2003.3	1997.3	2000.3	1997.3	1994.3	1994.3	1988.3	1985.3	1988.3	1988.3
20°	1937.4	1931.4	1925.4	1928.4	1922.4	1919.4	1922.4	1913.4	1916.4	1916.4	1916.4
22.5°	1853.5	1850.6	1841.6	1841.6	1835.6	1832.6	1835.6	1835.6	1838.6	1835.6	1835.6
25°	1760.7	1754.7	1748.7	1748.7	1745.7	1742.7	1745.7	1748.7	1745.7	1748.7	1748.7
27.5°	1661.9	1652.9	1652.9	1646.9	1646.9	1649.9	1646.9	1649.9	1652.9	1652.9	1658.9
30°	1554.2	1551.2	1548.2	1545.2	1545.2	1548.2	1548.2	1548.2	1551.2	1557.2	1557.2
32.5°	1452.3	1446.3	1440.4	1440.4	1446.3	1443.4	1446.3	1446.3	1452.3	1452.3	1458.3
35°	1341.5	1341.5	1335.5	1338.5	1338.5	1338.5	1338.5	1344.5	1350.5	1353.5	1359.5
37.5°	1239.7	1230.7	1233.7	1233.7	1236.7	1233.7	1242.7	1242.7	1248.7	1248.7	1254.7
40°	1128.9	1128.9	1131.9	1128.9	1131.9	1131.9	1137.9	1143.9	1146.8	1152.8	1155.8
42.5°	1024.1	1030.0	1024.1	1027.0	1030.0	1033.0	1036.0	1039.0	1051.0	1057.0	1066.0
45°	928.3	931.3	934.3	937.3	934.3	940.3	943.3	949.3	958.3	961.3	964.2
47.5°	835.5	838.5	841.5	844.5	844.5	850.5	853.5	859.4	865.4	868.4	871.4
50°	745.6	751.6	754.6	754.6	757.6	763.6	769.6	769.6	775.6	784.6	787.6
52.5°	664.8	664.8	670.8	673.8	676.8	676.8	685.7	688.7	691.7	697.7	703.7
55°	574.9	583.9	586.9	586.9	592.9	598.9	601.9	604.9	604.9	616.9	616.9
57.5°	497.1	500.0	506.0	506.0	506.0	515.0	515.0	521.0	524.0	527.0	533.0
60°	419.2	425.2	425.2	428.2	425.2	431.2	434.2	440.1	443.1	446.1	449.1
62.5°	347.3	347.3	350.3	350.3	350.3	350.3	356.3	356.3	362.3	365.3	368.3
65°	278.5	278.5	278.5	278.5	278.5	278.5	278.5	278.5	281.5	281.5	287.5
67.5°	215.6	212.6	206.7	209.6	206.7	206.7	203.7	203.7	206.7	206.7	212.6
70°	155.7	152.7	146.8	146.8	143.8	140.8	137.8	134.8	131.8	131.8	131.8
72.5°	101.8	95.8	86.9	83.9	83.9	77.9	71.9	68.9	68.9	68.9	68.9
75°	50.9	44.9	38.9	35.9	35.9	30.0	32.9	30.0	30.0	30.0	30.0
77.5°	21.0	15.0	12.0	12.0	12.0	9.0	9.0	9.0	9.0	9.0	9.0
80°	6.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
82.5°	3.0	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





TEST NUMBER: P584429

CATALOG NUMBER: HC835D010-HM82555840-81RWWC

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2242.9	2242.9	2242.9	2242.9	2242.9	2242.9	2242.9	2242.9
2.5°	2230.9	2230.9	2224.9	2227.9	2227.9	2227.9	2227.9	2227.9
5°	2204.0	2207.0	2204.0	2207.0	2207.0	2204.0	2204.0	2204.0
7.5°	2177.0	2180.0	2177.0	2180.0	2180.0	2180.0	2177.0	2177.0
10°	2144.1	2144.1	2144.1	2144.1	2144.1	2141.1	2144.1	2144.1
12.5°	2099.1	2099.1	2099.1	2102.1	2102.1	2099.1	2099.1	2096.1
15°	2051.2	2045.2	2048.2	2051.2	2048.2	2048.2	2048.2	2048.2
17.5°	1985.3	1988.3	1985.3	1985.3	1985.3	1985.3	1988.3	1985.3
20°	1916.4	1916.4	1919.4	1916.4	1916.4	1916.4	1916.4	1913.4
22.5°	1838.6	1835.6	1835.6	1838.6	1838.6	1835.6	1838.6	1838.6
25°	1751.7	1754.7	1751.7	1751.7	1754.7	1754.7	1754.7	1751.7
27.5°	1658.9	1661.9	1664.9	1661.9	1661.9	1661.9	1664.9	1667.9
30°	1563.2	1569.1	1563.2	1563.2	1569.1	1566.1	1569.1	1569.1
32.5°	1461.3	1470.3	1464.3	1470.3	1470.3	1473.3	1470.3	1473.3
35°	1359.5	1368.5	1368.5	1368.5	1371.5	1374.5	1374.5	1371.5
37.5°	1263.7	1266.6	1266.6	1272.6	1275.6	1278.6	1278.6	1275.6
40°	1164.8	1170.8	1173.8	1173.8	1173.8	1179.8	1185.8	1179.8
42.5°	1069.0	1072.0	1075.0	1075.0	1081.0	1084.0	1086.9	1086.9
45°	976.1	982.1	985.1	988.1	991.1	997.1	994.1	1000.1
47.5°	880.4	889.4	892.4	895.4	901.4	904.4	907.4	910.4
50°	793.6	799.5	799.5	805.5	814.5	814.5	820.5	823.5
52.5°	706.7	709.7	712.7	715.7	721.7	727.7	727.7	733.7
55°	622.8	625.8	625.8	628.8	631.8	643.8	646.8	646.8
57.5°	536.0	536.0	542.0	545.0	548.0	554.0	554.0	554.0
60°	452.1	455.1	455.1	458.1	461.1	467.1	470.1	467.1
62.5°	368.3	371.3	371.3	374.3	380.2	383.2	380.2	380.2
65°	290.5	293.5	293.5	296.5	302.5	302.5	299.5	302.5
67.5°	212.6	212.6	212.6	212.6	212.6	212.6	212.6	212.6
70°	134.8	131.8	128.8	131.8	131.8	131.8	128.8	134.8
72.5°	65.9	68.9	68.9	68.9	68.9	68.9	68.9	65.9
75°	30.0	30.0	27.0	27.0	27.0	30.0	30.0	27.0
77.5°	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0
80°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
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



Report Generated By 670245859 / DESKTOP-HRDQ47P





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















(END OF REPORT)