

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: P593719

Luminaire Tested: **HC835D010-HM82555950-81WWWB**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P593719  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-18)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC835D010-HM82555950-81WWWB  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4034.2 lumens  
Efficiency: N/A  
Efficacy: 119.7 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.09 / 1.18  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

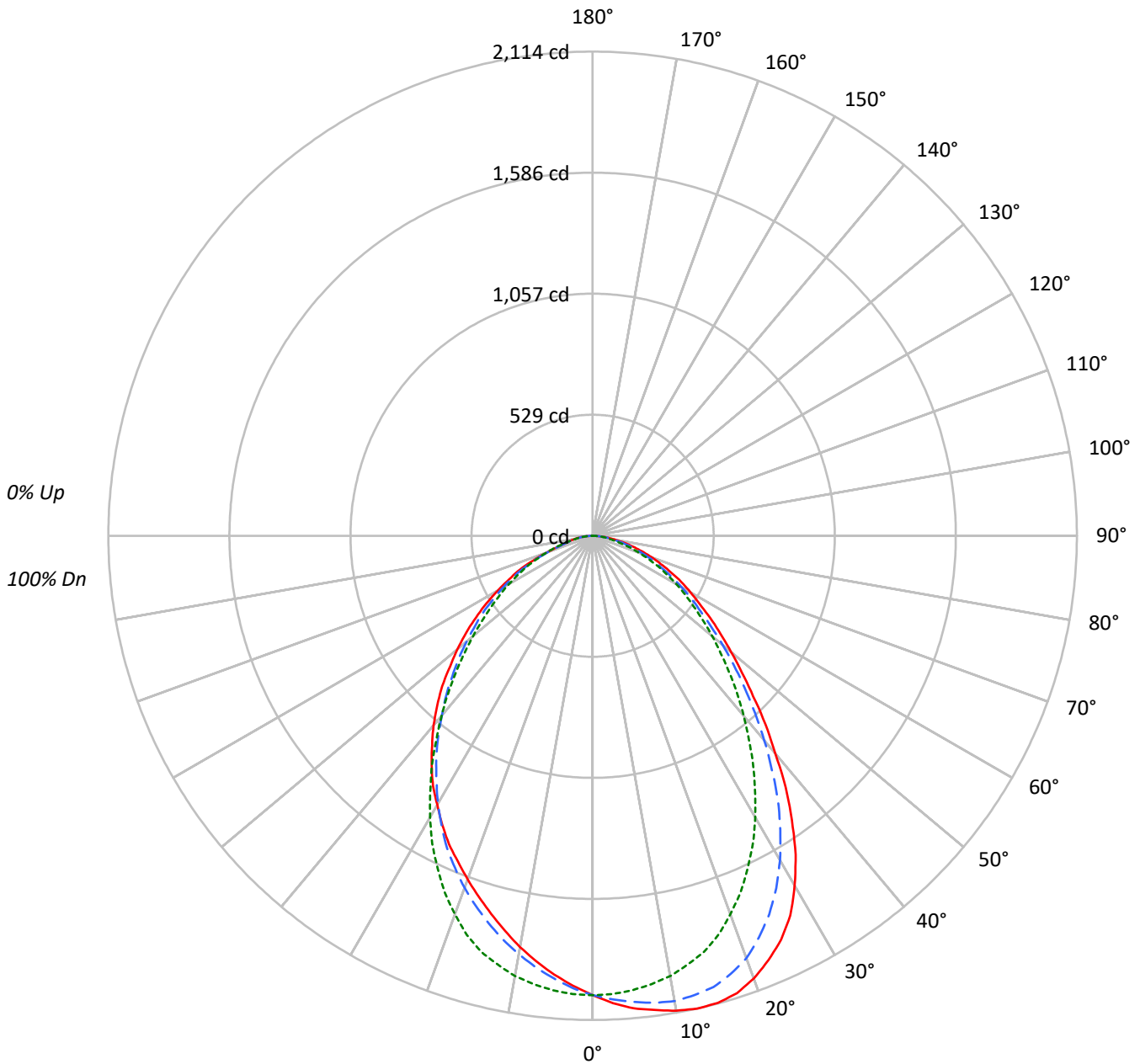
Input Watts (W): 33.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20					20					20					20					20					
RC	80					70					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	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87					87			
2	102	94	88	83	99	93	87	82	89	85	81	86	82	79	83	80	77	75					75			
3	94	84	77	71	91	83	76	71	80	74	69	77	72	68	75	71	67	65					65			
4	87	76	68	62	84	75	67	61	72	66	61	70	64	60	68	63	59	57					57			
5	80	69	60	54	78	67	60	54	65	59	54	64	58	53	62	57	52	50					50			
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45					45			
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40					40			
8	65	52	45	39	64	52	44	39	51	44	39	49	43	39	48	43	38	37					37			
9	61	48	41	36	60	48	41	36	47	40	35	46	40	35	45	39	35	33					33			
10	57	45	38	33	56	44	37	33	44	37	32	43	37	32	42	36	32	30					30			

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

	0°	90°	180°
0°	61851	61851	61851
5°	64115	61648	59528
10°	65931	61112	57097
15°	67398	60033	54574
20°	67504	57686	52357
25°	66211	54479	50505
30°	62800	50522	48293
35°	57061	46012	46122
40°	49895	41288	43470
45°	43238	36780	40504
50°	37860	32665	36901
55°	33698	28951	33397
60°	30398	26007	29344
65°	27442	22867	25567
70°	24659	19267	19006
75°	21720	15274	14261
80°	18202	12661	13656
85°	14117	11110	12065



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	189.2	4.7
10°-20°	533.0	13.2
20°-30°	761.7	18.9
30°-40°	809.3	20.1
40°-50°	696.8	17.3
50°-60°	521.0	12.9
60°-70°	332.3	8.2
70°-80°	151.2	3.7
80°-90°	39.7	1.0
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°	1483.9	36.8
0°-40°	2293.2	56.8
0°-60°	3511.0	87.0
0°-90°	4034.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4034.2	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	2006	2006	2006	2006	2006	
5°	2071	2043	1992	1940	1923	199
15°	2111	2040	1880	1752	1710	595
25°	1946	1824	1601	1504	1484	891
35°	1516	1410	1222	1191	1225	944
45°	992	937	843	866	929	771
55°	627	576	538	584	621	564
65°	376	333	313	328	350	375
75°	182	157	128	117	120	194
85°	40	34	31	34	34	48
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°	2005.8	2005.8	2005.8	2005.8	2005.8	2005.8	2005.8	2005.8	2005.8	2005.8	2005.8
2.5°	2042.8	2037.2	2040.1	2037.2	2040.1	2040.1	2034.3	2034.3	2034.3	2034.3	2025.8
5°	2071.3	2068.5	2068.5	2065.7	2062.8	2065.7	2062.8	2060.0	2054.2	2051.5	2042.8
7.5°	2088.5	2088.5	2088.5	2088.5	2085.6	2082.7	2080.0	2074.2	2068.5	2062.8	2057.1
10°	2105.6	2108.4	2105.6	2102.7	2099.9	2094.1	2091.3	2085.6	2077.1	2068.5	2062.8
12.5°	2114.1	2114.1	2111.2	2111.2	2105.6	2102.7	2094.1	2085.6	2077.1	2068.5	2054.2
15°	2111.2	2111.2	2108.4	2105.6	2097.0	2094.1	2088.5	2080.0	2065.7	2054.2	2040.1
17.5°	2094.1	2091.3	2085.6	2085.6	2074.2	2071.3	2065.7	2054.2	2040.1	2022.9	2005.8
20°	2057.1	2057.1	2054.2	2051.5	2040.1	2031.4	2025.8	2011.6	2000.2	1980.2	1963.0
22.5°	2005.8	2011.6	2005.8	2000.2	1985.9	1983.0	1974.5	1957.4	1940.3	1917.5	1897.5
25°	1946.0	1943.2	1940.3	1934.7	1923.1	1917.5	1906.1	1889.0	1871.9	1846.2	1823.5
27.5°	1869.1	1857.6	1857.6	1846.2	1837.7	1829.2	1823.5	1806.3	1783.6	1763.7	1735.2
30°	1763.7	1766.5	1752.2	1749.4	1735.2	1729.4	1718.1	1700.9	1681.0	1658.3	1635.4
32.5°	1649.6	1641.1	1641.1	1629.8	1618.4	1609.8	1607.0	1587.0	1569.9	1547.1	1524.3
35°	1515.8	1515.8	1507.2	1504.3	1492.9	1487.3	1478.7	1467.3	1447.4	1427.4	1410.4
37.5°	1384.8	1379.0	1376.1	1370.5	1361.9	1353.4	1353.4	1333.4	1330.6	1307.7	1285.0
40°	1239.5	1245.1	1239.5	1230.8	1228.0	1222.3	1219.4	1208.1	1199.6	1179.6	1165.3
42.5°	1116.9	1111.1	1111.1	1108.4	1096.9	1096.9	1091.3	1085.5	1071.3	1065.6	1048.5
45°	991.5	997.2	988.7	991.5	980.1	980.1	980.1	968.7	957.3	948.8	937.4
47.5°	883.3	886.0	886.0	877.5	874.7	874.7	869.0	863.3	854.8	843.4	834.8
50°	789.2	792.1	786.4	783.5	777.9	775.0	775.0	763.6	757.9	746.5	740.8
52.5°	703.7	703.7	700.9	700.9	692.3	692.3	686.7	678.1	672.4	666.7	652.4
55°	626.8	626.8	623.9	621.2	621.2	612.5	609.8	601.2	595.5	584.0	575.5
57.5°	552.8	555.6	552.8	549.9	547.0	544.3	538.5	530.0	524.2	515.7	510.0
60°	492.9	492.9	490.1	487.2	481.5	478.7	475.8	470.1	461.6	455.8	447.3
62.5°	436.0	433.1	430.2	427.3	421.7	421.7	415.9	410.3	401.7	396.1	390.3
65°	376.1	376.1	373.3	373.3	370.4	364.7	361.8	359.0	347.7	344.8	333.4
67.5°	321.9	324.8	319.1	319.1	313.4	313.4	310.5	302.0	299.1	293.5	287.8
70°	273.5	273.5	273.5	270.6	265.0	262.1	259.2	253.6	250.7	245.0	239.4
72.5°	225.1	225.1	222.2	222.2	219.4	216.6	213.7	208.0	208.0	202.3	196.6
75°	182.3	182.3	179.5	176.7	173.8	173.8	171.0	168.1	162.4	159.6	156.7
77.5°	139.6	139.6	139.6	136.8	133.9	133.9	133.9	128.2	122.6	122.6	119.7
80°	102.5	102.5	99.7	99.7	96.9	96.9	96.9	94.0	91.2	88.3	85.4
82.5°	68.4	68.4	68.4	68.4	65.5	65.5	65.5	62.7	59.8	59.8	59.8
85°	39.9	39.9	39.9	39.9	37.0	37.0	37.0	37.0	37.0	34.1	34.1
87.5°	17.1	14.3	17.1	14.3	17.1	14.3	17.1	14.3	14.3	14.3	14.3
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°	2005.8	2005.8	2005.8	2005.8	2005.8	2005.8	2005.8	2005.8	2005.8	2005.8	2005.8
2.5°	2028.6	2025.8	2022.9	2020.1	2020.1	2017.2	2011.6	2008.7	2005.8	2002.9	2002.9
5°	2040.1	2037.2	2031.4	2025.8	2022.9	2017.2	2011.6	2005.8	2000.2	1991.6	1988.7
7.5°	2048.6	2040.1	2034.3	2022.9	2020.1	2014.4	2005.8	1997.3	1985.9	1974.5	1965.9
10°	2048.6	2037.2	2028.6	2014.4	2008.7	2002.9	1991.6	1977.3	1963.0	1951.7	1937.4
12.5°	2042.8	2028.6	2014.4	2000.2	1991.6	1983.0	1965.9	1951.7	1934.7	1917.5	1906.1
15°	2022.9	2005.8	1988.7	1971.7	1963.0	1951.7	1934.7	1914.6	1897.5	1880.5	1860.5
17.5°	1985.9	1968.8	1948.9	1928.9	1917.5	1909.0	1883.4	1869.1	1843.5	1826.4	1809.2
20°	1937.4	1917.5	1891.9	1871.9	1857.6	1849.1	1829.2	1803.6	1783.6	1757.9	1740.8
22.5°	1874.8	1849.1	1823.5	1803.6	1789.3	1778.0	1752.2	1726.6	1709.5	1686.7	1666.8
25°	1800.7	1775.1	1749.4	1720.9	1706.7	1695.3	1672.5	1649.6	1626.9	1601.2	1584.1
27.5°	1712.4	1683.9	1661.0	1635.4	1621.1	1604.1	1578.5	1555.6	1532.8	1515.8	1492.9
30°	1615.5	1584.1	1561.4	1535.7	1521.5	1507.2	1481.6	1458.8	1438.8	1418.9	1407.5
32.5°	1498.7	1475.9	1453.1	1427.4	1416.0	1407.5	1381.9	1359.0	1336.2	1319.1	1310.6
35°	1387.5	1361.9	1342.0	1319.1	1305.0	1296.4	1273.6	1253.6	1242.2	1222.3	1210.9
37.5°	1270.7	1250.8	1228.0	1205.2	1196.7	1188.1	1171.0	1151.0	1134.0	1119.8	1114.0
40°	1148.3	1131.2	1111.1	1096.9	1088.4	1079.9	1065.6	1051.4	1040.0	1025.7	1020.0
42.5°	1031.4	1020.0	1003.0	985.8	977.3	974.5	957.3	945.9	940.2	934.6	928.8
45°	925.9	908.9	897.5	886.0	877.5	871.9	863.3	854.8	849.0	843.4	837.6
47.5°	823.4	809.1	797.7	789.2	780.7	777.9	772.1	763.6	757.9	757.9	757.9
50°	729.3	718.0	706.6	700.9	698.1	692.3	686.7	683.8	680.9	680.9	680.9
52.5°	646.8	635.4	626.8	621.2	621.2	615.4	609.8	606.9	606.9	606.9	606.9
55°	569.9	561.3	555.6	549.9	544.3	541.4	541.4	541.4	538.5	538.5	541.4
57.5°	501.5	495.7	487.2	481.5	478.7	478.7	475.8	473.0	475.8	478.7	481.5
60°	438.8	433.1	430.2	421.7	421.7	421.7	418.8	418.8	418.8	421.7	424.6
62.5°	381.8	378.9	373.3	370.4	367.5	367.5	364.7	364.7	364.7	364.7	367.5
65°	330.5	324.8	319.1	319.1	319.1	316.3	316.3	310.5	313.4	313.4	310.5
67.5°	282.1	276.4	273.5	270.6	267.9	267.9	265.0	262.1	259.2	259.2	259.2
70°	236.5	230.7	230.7	225.1	225.1	222.2	219.4	219.4	216.6	213.7	210.8
72.5°	190.8	188.1	185.2	182.3	182.3	182.3	179.5	176.7	173.8	171.0	165.2
75°	150.9	150.9	145.3	142.4	142.4	139.6	136.8	133.9	131.1	128.2	125.3
77.5°	116.8	113.9	108.3	105.4	105.4	105.4	102.5	99.7	96.9	94.0	91.2
80°	85.4	82.7	79.8	76.9	76.9	76.9	74.0	74.0	71.3	71.3	71.3
82.5°	57.0	57.0	54.1	54.1	54.1	54.1	51.3	51.3	51.3	51.3	51.3
85°	34.1	34.1	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4	31.4
87.5°	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3
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°	2005.8	2005.8	2005.8	2005.8	2005.8	2005.8	2005.8	2005.8	2005.8	2005.8	2005.8
2.5°	1997.3	1997.3	1991.6	1988.7	1985.9	1988.7	1983.0	1980.2	1977.3	1977.3	1974.5
5°	1980.2	1977.3	1965.9	1963.0	1960.3	1957.4	1951.7	1946.0	1940.3	1937.4	1934.7
7.5°	1957.4	1948.9	1937.4	1934.7	1931.8	1923.1	1914.6	1909.0	1900.4	1897.5	1891.9
10°	1926.0	1914.6	1906.1	1897.5	1891.9	1883.4	1874.8	1866.2	1854.9	1852.0	1843.5
12.5°	1889.0	1874.8	1857.6	1854.9	1846.2	1834.9	1823.5	1815.0	1806.3	1800.7	1792.1
15°	1843.5	1829.2	1812.1	1803.6	1795.0	1786.5	1772.2	1760.8	1752.2	1743.7	1735.2
17.5°	1789.3	1772.2	1757.9	1749.4	1743.7	1729.4	1718.1	1703.8	1695.3	1686.7	1678.2
20°	1723.8	1709.5	1689.5	1681.0	1678.2	1666.8	1652.5	1646.9	1635.4	1626.9	1621.1
22.5°	1649.6	1635.4	1618.4	1612.6	1601.2	1595.5	1581.4	1575.6	1569.9	1561.4	1558.5
25°	1567.1	1552.8	1538.6	1535.7	1527.2	1521.5	1513.0	1504.3	1504.3	1495.8	1495.8
27.5°	1481.6	1467.3	1455.9	1450.3	1447.4	1441.7	1433.2	1430.3	1427.4	1424.5	1424.5
30°	1390.4	1373.3	1367.6	1364.8	1361.9	1356.3	1353.4	1347.6	1350.5	1353.4	1350.5
32.5°	1293.5	1287.8	1276.5	1270.7	1273.6	1270.7	1265.1	1270.7	1267.8	1273.6	1276.5
35°	1199.6	1193.8	1188.1	1188.1	1182.4	1182.4	1182.4	1185.3	1190.9	1193.8	1199.6
37.5°	1108.4	1099.8	1096.9	1094.1	1096.9	1096.9	1096.9	1102.6	1108.4	1114.0	1122.5
40°	1011.5	1005.7	1005.7	1005.7	1005.7	1014.3	1011.5	1017.2	1022.9	1031.4	1040.0
42.5°	920.3	920.3	923.2	923.2	923.2	923.2	928.8	937.4	945.9	954.4	963.1
45°	834.8	834.8	834.8	840.5	840.5	843.4	854.8	860.4	866.2	874.7	883.3
47.5°	755.0	755.0	757.9	760.7	763.6	769.2	775.0	783.5	792.1	797.7	806.4
50°	680.9	683.8	689.4	695.2	695.2	698.1	706.6	712.3	718.0	726.6	729.3
52.5°	609.8	615.4	621.2	623.9	626.8	632.5	635.4	643.9	646.8	655.3	658.2
55°	544.3	547.0	555.6	558.4	558.4	564.1	569.9	575.5	584.0	584.0	589.8
57.5°	484.4	487.2	492.9	495.7	492.9	501.5	504.4	510.0	512.9	518.5	521.4
60°	424.6	430.2	433.1	433.1	436.0	438.8	444.5	444.5	450.2	455.8	455.8
62.5°	367.5	370.4	373.3	376.1	378.9	376.1	384.7	384.7	390.3	393.2	398.9
65°	313.4	316.3	316.3	319.1	319.1	321.9	321.9	324.8	327.7	333.4	336.2
67.5°	259.2	259.2	259.2	262.1	259.2	262.1	262.1	265.0	265.0	270.6	273.5
70°	210.8	208.0	205.1	205.1	205.1	205.1	202.3	205.1	205.1	208.0	208.0
72.5°	162.4	159.6	156.7	153.8	153.8	150.9	148.2	150.9	150.9	153.8	153.8
75°	122.6	116.8	116.8	116.8	113.9	113.9	113.9	116.8	116.8	116.8	119.7
77.5°	91.2	91.2	88.3	88.3	88.3	91.2	91.2	94.0	94.0	94.0	94.0
80°	68.4	71.3	71.3	71.3	71.3	74.0	74.0	74.0	74.0	76.9	76.9
82.5°	51.3	51.3	51.3	51.3	54.1	54.1	54.1	54.1	54.1	54.1	54.1
85°	31.4	34.1	34.1	31.4	34.1	34.1	34.1	34.1	34.1	34.1	34.1
87.5°	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3
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: P593719

CATALOG NUMBER: HC835D010-HM82555950-81WWWB

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2005.8	2005.8	2005.8	2005.8	2005.8	2005.8	2005.8	2005.8
2.5°	1971.7	1971.7	1971.7	1971.7	1968.8	1968.8	1968.8	1965.9
5°	1928.9	1928.9	1928.9	1923.1	1926.0	1926.0	1920.4	1923.1
7.5°	1886.1	1883.4	1880.5	1880.5	1877.6	1874.8	1871.9	1874.8
10°	1837.7	1829.2	1829.2	1826.4	1826.4	1820.6	1820.6	1823.5
12.5°	1783.6	1778.0	1778.0	1775.1	1772.2	1769.3	1766.5	1766.5
15°	1729.4	1723.8	1720.9	1718.1	1715.2	1709.5	1712.4	1709.5
17.5°	1675.3	1666.8	1666.8	1663.9	1661.0	1655.4	1655.4	1652.5
20°	1612.6	1609.8	1604.1	1607.0	1604.1	1598.4	1595.5	1595.5
22.5°	1550.0	1550.0	1547.1	1547.1	1544.2	1541.5	1538.6	1538.6
25°	1490.1	1487.3	1490.1	1490.1	1481.6	1481.6	1481.6	1484.4
27.5°	1421.8	1424.5	1421.8	1421.8	1421.8	1421.8	1424.5	1421.8
30°	1353.4	1353.4	1353.4	1356.3	1361.9	1359.0	1359.0	1356.3
32.5°	1279.3	1282.1	1282.1	1285.0	1287.8	1293.5	1293.5	1296.4
35°	1205.2	1210.9	1213.8	1210.9	1219.4	1219.4	1225.2	1225.2
37.5°	1128.3	1131.2	1136.8	1139.7	1145.4	1148.3	1151.0	1151.0
40°	1045.6	1057.0	1059.9	1062.7	1071.3	1071.3	1074.1	1079.9
42.5°	968.7	980.1	983.0	985.8	991.5	1000.1	997.2	1003.0
45°	894.7	903.2	906.0	908.9	917.4	920.3	920.3	928.8
47.5°	814.9	820.5	823.4	829.1	834.8	840.5	846.3	843.4
50°	735.1	743.6	749.3	752.2	760.7	763.6	766.5	769.2
52.5°	663.8	669.6	672.4	675.3	683.8	686.7	689.4	695.2
55°	595.5	598.3	604.0	601.2	609.8	612.5	615.4	621.2
57.5°	527.1	530.0	532.8	532.8	538.5	544.3	547.0	549.9
60°	461.6	467.2	470.1	470.1	470.1	475.8	475.8	475.8
62.5°	401.7	401.7	404.6	404.6	410.3	410.3	410.3	410.3
65°	339.0	341.9	344.8	344.8	350.4	347.7	353.3	350.4
67.5°	273.5	273.5	279.3	279.3	276.4	279.3	279.3	279.3
70°	208.0	208.0	210.8	210.8	210.8	210.8	210.8	210.8
72.5°	153.8	153.8	153.8	156.7	153.8	153.8	156.7	153.8
75°	119.7	119.7	119.7	119.7	119.7	119.7	119.7	119.7
77.5°	94.0	94.0	96.9	96.9	96.9	96.9	96.9	96.9
80°	76.9	76.9	76.9	76.9	79.8	76.9	76.9	76.9
82.5°	57.0	54.1	57.0	54.1	57.0	57.0	57.0	57.0
85°	34.1	34.1	34.1	34.1	34.1	34.1	34.1	34.1
87.5°	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3
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)