

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: P584386

Luminaire Tested: **HC835D010-HM82555827-81WWW**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584386  
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: HC835D010-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: 3631.4 lumens  
Efficiency: N/A  
Efficacy: 107.8 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

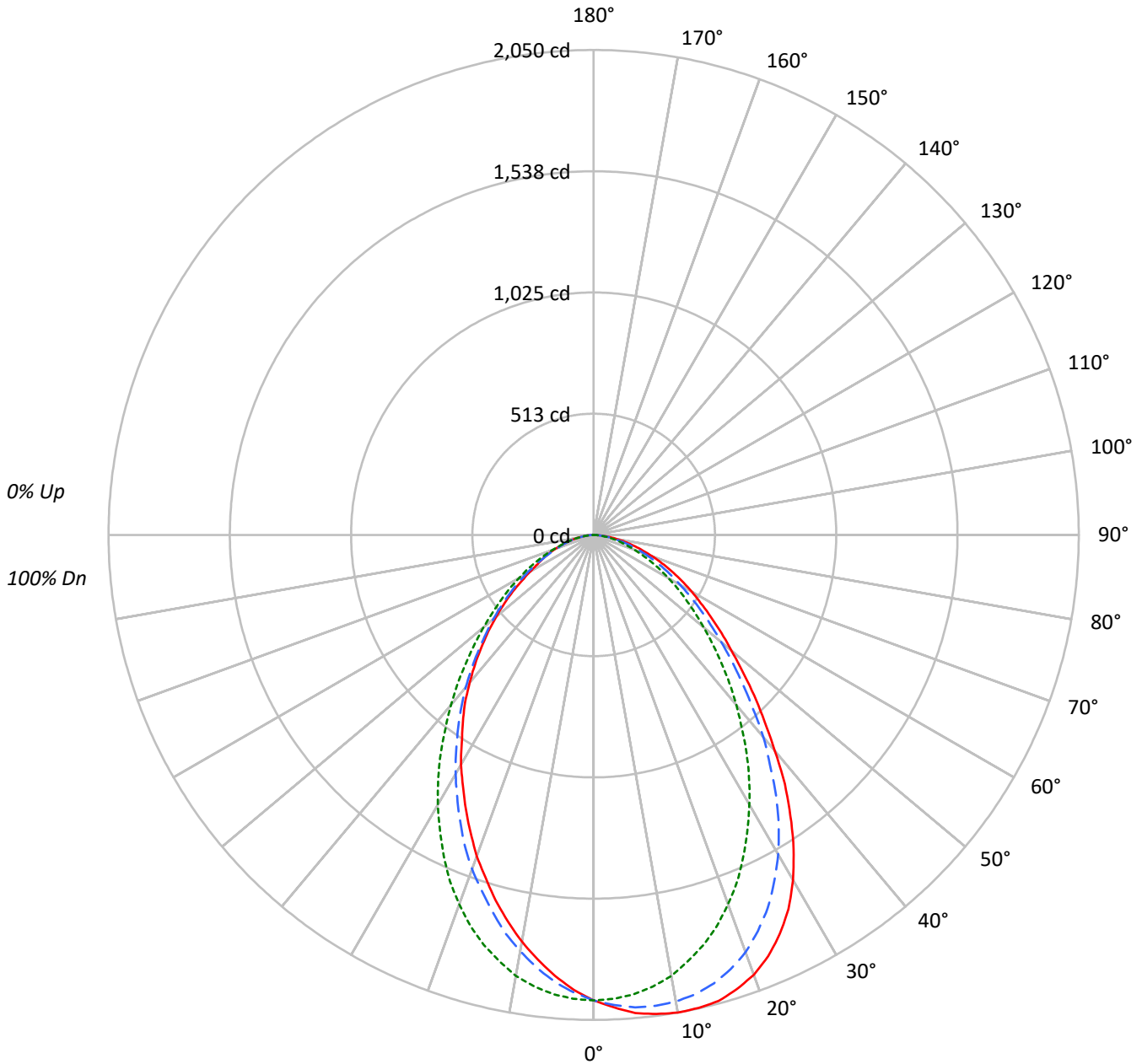
Input Watts (W): 33.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	60674	60674	60674
5°	62809	60326	57931
10°	64202	59267	54674
15°	65116	57275	51053
20°	64919	54490	47395
25°	63315	50958	43513
30°	59983	46866	39926
35°	54573	42410	36281
40°	47930	37722	32779
45°	41795	33178	29227
50°	36373	29076	25742
55°	32434	25547	22392
60°	29473	22393	19100
65°	26494	19482	17336
70°	23586	16616	15652
75°	20683	13999	13356
80°	17545	11383	11845
85°	13232	8527	9447



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	184.3	5.1
10°-20°	507.8	14.0
20°-30°	704.9	19.4
30°-40°	728.8	20.1
40°-50°	610.2	16.8
50°-60°	443.0	12.2
60°-70°	279.6	7.7
70°-80°	138.5	3.8
80°-90°	34.4	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°	1397.0	38.5
0°-40°	2125.7	58.5
0°-60°	3178.9	87.5
0°-90°	3631.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3631.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1968	1968	1968	1968	1968	
5°	2029	2005	1949	1896	1872	194
15°	2040	1962	1794	1650	1599	574
25°	1861	1741	1498	1335	1279	853
35°	1450	1343	1127	998	964	903
45°	958	889	761	686	670	741
55°	603	550	475	435	416	545
65°	363	318	267	235	238	362
75°	174	144	118	112	112	186
85°	37	29	24	27	27	45
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°	1967.6	1967.6	1967.6	1967.6	1967.6	1967.6	1967.6	1967.6	1967.6	1967.6	1967.6
2.5°	1999.7	1999.7	2002.3	1999.7	1999.7	1999.7	1996.9	1996.9	1994.3	1994.3	1989.0
5°	2029.1	2023.7	2029.1	2023.7	2023.7	2023.7	2021.0	2015.6	2013.0	2007.7	2005.0
7.5°	2042.4	2039.7	2039.7	2037.1	2037.1	2034.3	2031.7	2029.1	2018.4	2015.6	2007.7
10°	2050.4	2047.7	2047.7	2045.1	2039.7	2039.7	2034.3	2031.7	2018.4	2013.0	2002.3
12.5°	2047.7	2047.7	2047.7	2045.1	2037.1	2034.3	2029.1	2021.0	2010.4	1999.7	1989.0
15°	2039.7	2039.7	2034.3	2031.7	2023.7	2018.4	2015.6	2002.3	1991.7	1978.3	1962.3
17.5°	2013.0	2013.0	2010.4	2005.0	1996.9	1991.7	1986.3	1973.0	1962.3	1940.9	1924.9
20°	1978.3	1975.6	1973.0	1965.0	1956.9	1954.3	1946.3	1927.6	1914.3	1898.2	1876.9
22.5°	1927.6	1924.9	1922.2	1916.9	1903.5	1898.2	1892.8	1879.5	1855.5	1839.5	1812.8
25°	1860.9	1860.9	1855.5	1847.4	1834.1	1828.7	1820.8	1807.4	1786.1	1762.0	1740.7
27.5°	1783.5	1780.7	1772.7	1767.4	1756.7	1748.7	1735.3	1719.4	1697.9	1679.2	1652.6
30°	1684.6	1684.6	1679.2	1671.3	1657.9	1652.6	1641.9	1623.2	1601.8	1577.9	1559.2
32.5°	1572.5	1572.5	1564.5	1559.2	1551.2	1537.8	1535.1	1513.8	1495.1	1476.4	1455.1
35°	1449.7	1452.3	1447.1	1436.4	1423.0	1423.0	1417.7	1399.0	1377.6	1358.9	1343.0
37.5°	1326.9	1318.9	1316.2	1310.9	1302.8	1292.2	1286.9	1278.9	1260.2	1246.8	1222.8
40°	1190.7	1193.4	1188.1	1182.7	1180.0	1172.0	1169.4	1156.1	1142.7	1126.6	1115.9
42.5°	1067.9	1067.9	1067.9	1062.6	1057.2	1049.2	1046.6	1038.5	1022.5	1011.8	995.8
45°	958.4	950.5	950.5	947.7	945.1	939.7	931.8	926.4	915.8	907.7	889.0
47.5°	851.7	854.3	851.7	849.0	841.0	838.4	835.6	824.9	814.3	806.3	793.0
50°	758.2	763.6	758.2	758.2	752.8	750.2	744.9	736.9	728.9	715.4	702.1
52.5°	680.8	680.8	678.1	675.4	667.4	662.1	659.4	656.7	643.4	632.8	622.0
55°	603.3	606.1	606.1	598.0	595.4	590.0	587.4	579.4	574.0	558.0	550.0
57.5°	536.6	533.9	536.6	531.3	525.9	520.7	517.9	512.6	504.6	493.9	483.3
60°	477.9	472.6	472.6	469.9	464.6	461.8	456.6	448.5	440.5	429.8	421.8
62.5°	419.2	416.5	413.8	411.2	405.8	403.1	400.5	392.5	384.4	376.4	368.4
65°	363.1	363.1	360.5	355.1	352.5	349.7	347.1	341.8	331.0	325.7	317.7
67.5°	312.3	309.7	309.7	304.4	299.0	296.4	296.4	291.0	283.0	274.9	269.7
70°	261.6	264.3	261.6	259.0	253.6	253.6	248.3	245.6	234.9	232.3	224.3
72.5°	216.2	216.2	213.6	213.6	208.2	205.6	205.6	200.2	194.9	189.5	184.3
75°	173.6	173.6	173.6	170.8	168.2	162.8	162.8	160.2	154.9	149.5	144.1
77.5°	136.2	133.5	133.5	130.8	128.2	125.4	125.4	122.8	117.5	114.8	109.5
80°	98.8	96.1	96.1	96.1	90.8	93.4	90.8	88.1	85.4	82.8	80.1
82.5°	64.1	66.7	66.7	64.1	61.5	61.5	61.5	58.7	58.7	56.1	53.4
85°	37.4	37.4	37.4	37.4	34.7	34.7	34.7	32.0	32.0	32.0	29.4
87.5°	16.1	16.1	16.1	16.1	16.1	16.1	13.3	13.3	13.3	13.3	13.3
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°	1967.6	1967.6	1967.6	1967.6	1967.6	1967.6	1967.6	1967.6	1967.6	1967.6	1967.6
2.5°	1989.0	1983.6	1981.0	1978.3	1978.3	1975.6	1973.0	1967.6	1967.6	1962.3	1959.6
5°	1999.7	1991.7	1986.3	1981.0	1978.3	1973.0	1967.6	1959.6	1956.9	1948.9	1940.9
7.5°	2002.3	1989.0	1983.6	1973.0	1967.6	1962.3	1951.7	1943.6	1933.0	1924.9	1914.3
10°	1991.7	1981.0	1967.6	1954.3	1951.7	1943.6	1927.6	1916.9	1903.5	1892.8	1876.9
12.5°	1975.6	1959.6	1946.3	1930.2	1922.2	1914.3	1898.2	1882.2	1863.5	1844.8	1828.7
15°	1948.9	1930.2	1911.5	1892.8	1882.2	1874.2	1855.5	1836.8	1818.1	1794.1	1778.1
17.5°	1908.9	1887.6	1868.9	1844.8	1834.1	1826.1	1802.2	1780.7	1756.7	1732.7	1716.6
20°	1858.2	1831.5	1810.1	1783.5	1775.4	1762.0	1738.1	1714.0	1687.3	1660.5	1641.9
22.5°	1791.4	1764.8	1740.7	1714.0	1700.7	1687.3	1663.3	1634.0	1607.2	1585.8	1567.1
25°	1714.0	1690.0	1660.5	1636.6	1620.5	1604.5	1577.9	1553.8	1529.7	1497.7	1479.1
27.5°	1628.6	1599.2	1577.9	1545.8	1529.7	1519.1	1489.7	1457.7	1436.4	1406.9	1385.6
30°	1532.5	1505.8	1481.7	1449.7	1433.6	1423.0	1396.3	1366.9	1345.6	1316.2	1294.8
32.5°	1431.0	1401.7	1372.3	1350.9	1332.2	1321.5	1292.2	1273.5	1246.8	1222.8	1198.7
35°	1321.5	1292.2	1270.8	1241.5	1230.8	1220.0	1196.1	1172.0	1148.0	1126.6	1107.9
37.5°	1204.1	1182.7	1158.7	1137.4	1129.4	1118.7	1089.2	1067.9	1049.2	1027.9	1011.8
40°	1089.2	1070.5	1054.6	1033.2	1019.9	1011.8	990.5	971.8	950.5	937.1	921.0
42.5°	985.1	963.8	947.7	931.8	918.4	910.4	891.7	878.4	862.3	849.0	830.3
45°	875.7	865.0	846.3	833.0	824.9	814.3	801.0	784.9	771.5	760.8	747.6
47.5°	779.5	768.9	755.6	739.5	734.1	726.2	712.8	702.1	691.5	680.8	667.4
50°	691.5	678.1	667.4	656.7	651.5	643.4	630.0	624.8	616.7	606.1	598.0
52.5°	611.3	600.7	590.0	576.7	574.0	568.7	560.7	550.0	542.0	536.6	531.3
55°	539.3	528.6	520.7	509.9	507.2	502.0	491.2	485.9	480.5	475.2	469.9
57.5°	475.2	464.6	453.9	448.5	443.1	437.9	435.2	427.2	421.8	419.2	413.8
60°	416.5	405.8	397.9	389.8	387.1	384.4	379.2	373.8	368.4	363.1	360.5
62.5°	360.5	349.7	344.4	339.0	333.8	333.8	328.4	323.1	317.7	315.1	309.7
65°	309.7	304.4	296.4	288.4	285.7	285.7	277.7	274.9	272.3	267.0	261.6
67.5°	261.6	256.3	248.3	245.6	243.0	240.3	237.6	232.3	226.9	224.3	218.9
70°	218.9	213.6	208.2	205.6	202.9	200.2	194.9	192.3	186.9	184.3	181.5
72.5°	176.2	173.6	168.2	165.6	162.8	160.2	157.5	154.9	149.5	146.9	144.1
75°	141.5	138.8	133.5	130.8	128.2	128.2	125.4	120.2	117.5	117.5	114.8
77.5°	106.7	104.1	101.5	98.8	96.1	96.1	93.4	90.8	88.1	88.1	85.4
80°	77.4	74.8	72.1	72.1	72.1	69.4	66.7	66.7	64.1	64.1	61.5
82.5°	50.7	50.7	48.0	48.0	48.0	45.4	45.4	42.8	42.8	42.8	42.8
85°	29.4	29.4	29.4	26.7	26.7	26.7	26.7	26.7	26.7	24.1	26.7
87.5°	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	10.7	10.7	10.7
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°	1967.6	1967.6	1967.6	1967.6	1967.6	1967.6	1967.6	1967.6	1967.6	1967.6	1967.6
2.5°	1956.9	1954.3	1948.9	1948.9	1943.6	1943.6	1940.9	1938.2	1935.6	1933.0	1930.2
5°	1938.2	1927.6	1922.2	1919.6	1914.3	1911.5	1903.5	1898.2	1895.6	1890.2	1884.8
7.5°	1903.5	1892.8	1882.2	1879.5	1876.9	1866.1	1858.2	1850.2	1844.8	1839.5	1834.1
10°	1863.5	1852.8	1839.5	1834.1	1828.7	1815.4	1804.8	1796.8	1786.1	1775.4	1772.7
12.5°	1815.4	1799.4	1783.5	1778.1	1770.0	1756.7	1746.1	1732.7	1724.6	1711.3	1708.7
15°	1759.4	1740.7	1727.4	1714.0	1708.7	1695.3	1676.6	1665.9	1649.9	1644.6	1631.2
17.5°	1692.7	1674.0	1655.3	1649.9	1641.9	1623.2	1604.5	1591.2	1575.1	1567.1	1559.2
20°	1623.2	1599.2	1580.5	1575.1	1564.5	1548.4	1529.7	1516.4	1503.1	1487.1	1479.1
22.5°	1543.1	1516.4	1500.4	1487.1	1484.4	1465.8	1444.3	1433.6	1423.0	1409.7	1399.0
25°	1455.1	1431.0	1412.3	1401.7	1396.3	1380.3	1364.3	1350.9	1334.9	1326.9	1313.5
27.5°	1364.3	1348.2	1324.3	1313.5	1305.6	1292.2	1273.5	1265.4	1249.5	1238.7	1230.8
30°	1276.1	1252.1	1238.7	1225.4	1217.4	1204.1	1188.1	1180.0	1166.7	1156.1	1148.0
32.5°	1180.0	1164.0	1145.3	1140.0	1129.4	1115.9	1105.3	1092.0	1081.3	1070.5	1067.9
35°	1092.0	1070.5	1051.8	1046.6	1038.5	1025.2	1019.9	1011.8	998.5	995.8	985.1
37.5°	995.8	985.1	963.8	955.8	953.1	942.5	931.8	926.4	918.4	910.4	907.7
40°	905.1	891.7	881.0	873.0	867.7	859.7	849.0	846.3	841.0	830.3	827.6
42.5°	819.7	806.3	795.6	793.0	784.9	776.9	771.5	763.6	760.8	758.2	752.8
45°	736.9	728.9	718.2	715.4	712.8	702.1	696.8	691.5	686.1	683.5	678.1
47.5°	662.1	654.1	646.1	643.4	638.1	635.4	627.4	624.8	616.7	614.1	611.3
50°	590.0	584.6	579.4	576.7	571.3	568.7	563.3	558.0	552.6	550.0	547.2
52.5°	525.9	520.7	515.3	512.6	509.9	504.6	499.2	493.9	491.2	488.5	485.9
55°	464.6	459.2	456.6	453.9	451.2	448.5	440.5	437.9	435.2	432.5	427.2
57.5°	408.5	403.1	397.9	397.9	395.1	392.5	387.1	381.8	381.8	376.4	371.1
60°	357.7	352.5	347.1	344.4	341.8	336.4	333.8	331.0	328.4	325.7	320.3
62.5°	304.4	301.7	296.4	296.4	291.0	288.4	285.7	283.0	280.3	274.9	272.3
65°	259.0	256.3	251.0	248.3	248.3	245.6	240.3	237.6	234.9	234.9	232.3
67.5°	216.2	213.6	208.2	205.6	205.6	202.9	200.2	200.2	197.6	194.9	197.6
70°	178.9	173.6	173.6	170.8	170.8	168.2	165.6	165.6	165.6	168.2	168.2
72.5°	141.5	138.8	136.2	136.2	136.2	136.2	133.5	133.5	136.2	138.8	138.8
75°	112.1	109.5	109.5	109.5	106.7	106.7	109.5	109.5	112.1	112.1	112.1
77.5°	82.8	82.8	82.8	82.8	82.8	82.8	85.4	85.4	88.1	88.1	88.1
80°	61.5	61.5	61.5	61.5	61.5	64.1	64.1	64.1	64.1	64.1	66.7
82.5°	42.8	42.8	42.8	42.8	42.8	42.8	42.8	45.4	45.4	45.4	45.4
85°	24.1	26.7	26.7	26.7	26.7	26.7	26.7	26.7	26.7	26.7	26.7
87.5°	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7
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: P584386

CATALOG NUMBER: HC835D010-HM82555827-81WWW

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1967.6	1967.6	1967.6	1967.6	1967.6	1967.6	1967.6	1967.6
2.5°	1927.6	1927.6	1927.6	1930.2	1924.9	1924.9	1924.9	1924.9
5°	1882.2	1879.5	1876.9	1879.5	1874.2	1874.2	1871.5	1871.5
7.5°	1826.1	1823.5	1820.8	1820.8	1815.4	1815.4	1812.8	1810.1
10°	1764.8	1759.4	1762.0	1756.7	1754.0	1751.4	1748.7	1746.1
12.5°	1697.9	1692.7	1690.0	1684.6	1679.2	1676.6	1679.2	1674.0
15°	1625.9	1617.9	1615.3	1609.9	1604.5	1601.8	1601.8	1599.2
17.5°	1545.8	1540.5	1537.8	1532.5	1529.7	1524.5	1521.8	1519.1
20°	1471.0	1457.7	1460.4	1455.1	1452.3	1441.7	1441.7	1444.3
22.5°	1388.2	1380.3	1374.9	1369.6	1366.9	1361.6	1361.6	1358.9
25°	1305.6	1297.6	1294.8	1289.5	1286.9	1281.5	1278.9	1278.9
27.5°	1225.4	1214.8	1214.8	1209.4	1204.1	1201.4	1198.7	1196.1
30°	1140.0	1132.0	1129.4	1129.4	1126.6	1126.6	1118.7	1121.3
32.5°	1059.9	1054.6	1051.8	1046.6	1046.6	1043.9	1043.9	1035.9
35°	979.8	971.8	974.5	969.2	966.4	963.8	966.4	963.8
37.5°	902.3	897.1	897.1	891.7	891.7	889.0	886.4	891.7
40°	824.9	822.3	819.7	816.9	819.7	816.9	811.6	814.3
42.5°	747.6	747.6	744.9	744.9	742.2	742.2	742.2	742.2
45°	678.1	675.4	675.4	672.8	672.8	672.8	672.8	670.2
47.5°	608.7	606.1	606.1	606.1	603.3	603.3	600.7	603.3
50°	542.0	542.0	539.3	539.3	542.0	539.3	536.6	536.6
52.5°	480.5	480.5	477.9	477.9	475.2	472.6	475.2	475.2
55°	424.5	421.8	419.2	419.2	416.5	413.8	413.8	416.5
57.5°	371.1	368.4	365.7	365.7	360.5	357.7	357.7	357.7
60°	320.3	315.1	315.1	312.3	312.3	309.7	309.7	309.7
62.5°	272.3	269.7	269.7	269.7	269.7	267.0	267.0	267.0
65°	232.3	232.3	232.3	234.9	234.9	237.6	237.6	237.6
67.5°	200.2	202.9	202.9	202.9	205.6	205.6	205.6	202.9
70°	170.8	170.8	170.8	173.6	173.6	173.6	173.6	173.6
72.5°	141.5	141.5	141.5	141.5	141.5	141.5	141.5	141.5
75°	112.1	114.8	114.8	114.8	112.1	114.8	114.8	112.1
77.5°	88.1	88.1	88.1	88.1	88.1	88.1	88.1	88.1
80°	66.7	66.7	66.7	66.7	66.7	66.7	66.7	66.7
82.5°	45.4	45.4	45.4	45.4	45.4	45.4	45.4	45.4
85°	26.7	26.7	26.7	26.7	26.7	26.7	26.7	26.7
87.5°	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7
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)