

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: P584420

Luminaire Tested: **HC835D010-HM82555835-81WWW**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584420
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-HM82555835-81WWW
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: 3758.9 lumens
Efficiency: N/A
Efficacy: 111.5 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

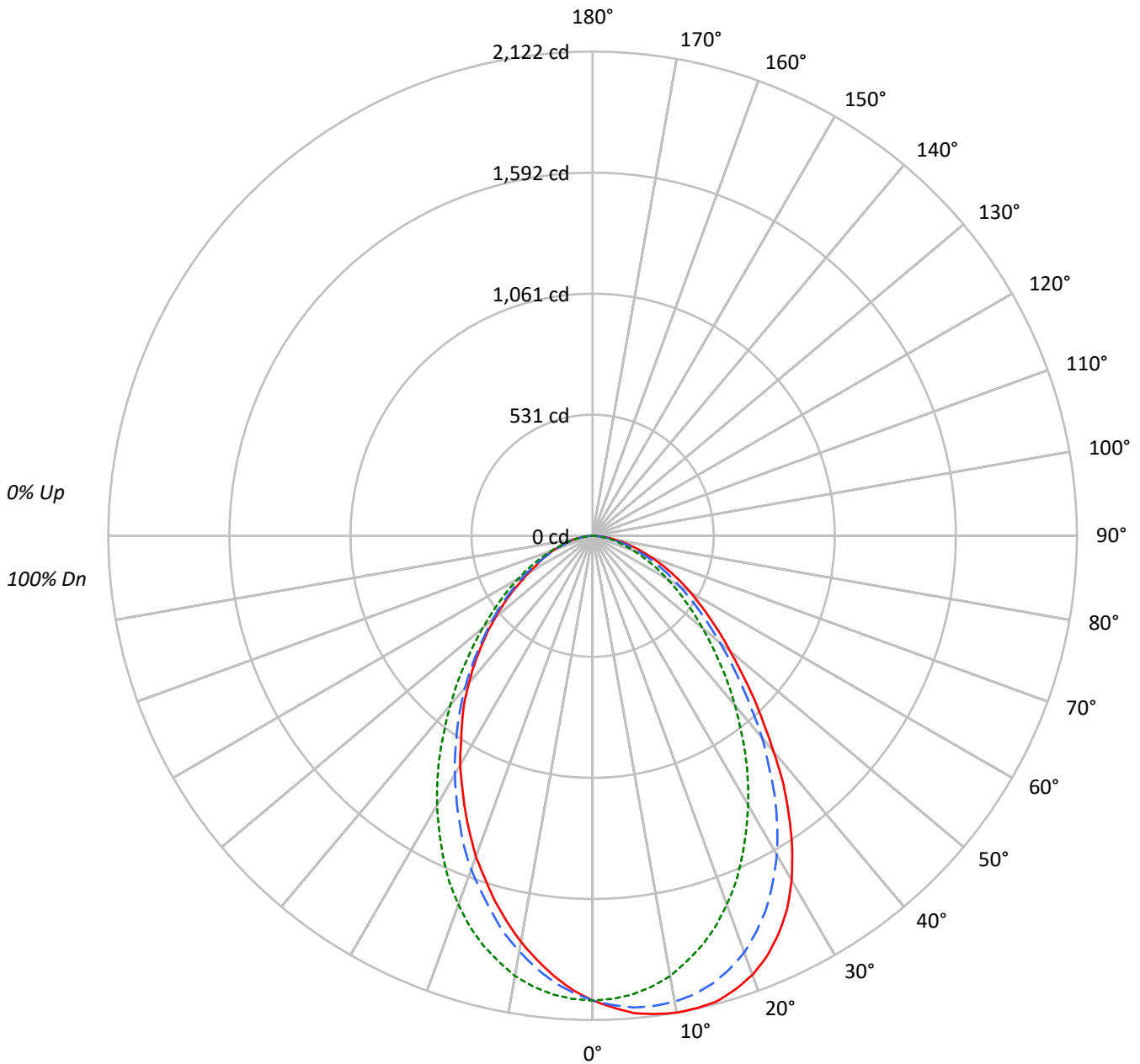
Input Watts (W): 33.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					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	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°	62804	62804	62804
5°	65013	62447	59967
10°	66457	61350	56590
15°	67405	59286	52847
20°	67196	56406	49062
25°	65534	52748	45041
30°	62091	48514	41329
35°	56489	43904	37558
40°	49613	39046	33930
45°	43265	34347	30247
50°	37649	30093	26649
55°	33574	26445	23182
60°	30509	23177	19772
65°	27420	20168	17942
70°	24424	17193	16193
75°	21398	14488	13832
80°	18166	11791	12271
85°	13692	8810	9800



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	190.8	5.1
10°-20°	525.6	14.0
20°-30°	729.6	19.4
30°-40°	754.4	20.1
40°-50°	631.6	16.8
50°-60°	458.5	12.2
60°-70°	289.4	7.7
70°-80°	143.3	3.8
80°-90°	35.6	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°	1446.0	38.5
0°-40°	2200.4	58.5
0°-60°	3290.6	87.5
0°-90°	3758.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3758.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2037	2037	2037	2037	2037	
5°	2100	2075	2017	1962	1937	201
15°	2111	2031	1857	1708	1655	594
25°	1926	1802	1550	1382	1324	883
35°	1501	1390	1166	1034	998	934
45°	992	920	788	710	694	767
55°	624	569	492	450	431	564
65°	376	329	276	243	246	375
75°	180	149	122	116	116	193
85°	39	30	25	28	28	47
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°	2036.7	2036.7	2036.7	2036.7	2036.7	2036.7	2036.7	2036.7	2036.7	2036.7	2036.7
2.5°	2069.9	2069.9	2072.7	2069.9	2069.9	2069.9	2067.1	2067.1	2064.4	2064.4	2058.9
5°	2100.3	2094.8	2100.3	2094.8	2094.8	2094.8	2091.9	2086.4	2083.7	2078.2	2075.4
7.5°	2114.1	2111.4	2111.4	2108.6	2108.6	2105.8	2103.1	2100.3	2089.2	2086.4	2078.2
10°	2122.4	2119.6	2119.6	2116.9	2111.4	2111.4	2105.8	2103.1	2089.2	2083.7	2072.7
12.5°	2119.6	2119.6	2119.6	2116.9	2108.6	2105.8	2100.3	2091.9	2080.9	2069.9	2058.9
15°	2111.4	2111.4	2105.8	2103.1	2094.8	2089.2	2086.4	2072.7	2061.6	2047.7	2031.2
17.5°	2083.7	2083.7	2080.9	2075.4	2067.1	2061.6	2056.1	2042.2	2031.2	2009.0	1992.5
20°	2047.7	2045.0	2042.2	2034.0	2025.7	2022.9	2014.7	1995.3	1981.5	1964.8	1942.8
22.5°	1995.3	1992.5	1989.8	1984.2	1970.5	1964.8	1959.3	1945.6	1920.6	1904.1	1876.4
25°	1926.1	1926.1	1920.6	1912.4	1898.6	1893.1	1884.7	1870.9	1848.9	1824.0	1801.8
27.5°	1846.0	1843.2	1835.0	1829.5	1818.4	1810.2	1796.3	1779.7	1757.6	1738.3	1710.6
30°	1743.8	1743.8	1738.3	1730.0	1716.1	1710.6	1699.6	1680.2	1658.2	1633.2	1613.9
32.5°	1627.7	1627.7	1619.5	1613.9	1605.7	1591.8	1589.0	1567.0	1547.6	1528.3	1506.1
35°	1500.6	1503.4	1497.9	1486.8	1472.9	1472.9	1467.4	1448.1	1426.0	1406.7	1390.0
37.5°	1373.5	1365.2	1362.5	1356.9	1348.6	1337.6	1332.1	1323.8	1304.4	1290.6	1265.7
40°	1232.5	1235.3	1229.7	1224.2	1221.5	1213.2	1210.5	1196.6	1182.8	1166.3	1155.1
42.5°	1105.4	1105.4	1105.4	1099.9	1094.4	1086.1	1083.4	1075.0	1058.4	1047.4	1030.8
45°	992.1	983.8	983.8	981.0	978.3	972.8	964.5	959.0	947.9	939.6	920.3
47.5°	881.6	884.4	881.6	878.9	870.5	867.7	865.0	853.9	842.9	834.6	820.7
50°	784.8	790.3	784.8	784.8	779.3	776.5	771.0	762.8	754.5	740.6	726.8
52.5°	704.7	704.7	701.9	699.2	690.9	685.4	682.6	679.9	666.0	654.9	643.9
55°	624.5	627.3	627.3	619.0	616.3	610.7	608.0	599.7	594.2	577.6	569.3
57.5°	555.5	552.8	555.5	550.0	544.4	538.9	536.1	530.6	522.3	511.3	500.2
60°	494.7	489.1	489.1	486.4	480.9	478.1	472.6	464.2	456.0	444.9	436.7
62.5°	433.9	431.2	428.4	425.5	420.0	417.3	414.5	406.2	398.0	389.7	381.3
65°	375.8	375.8	373.1	367.5	364.8	362.0	359.3	353.8	342.6	337.1	328.9
67.5°	323.3	320.6	320.6	315.1	309.6	306.8	306.8	301.2	292.9	284.6	279.1
70°	270.9	273.6	270.9	268.1	262.5	262.5	257.0	254.2	243.2	240.4	232.2
72.5°	223.9	223.9	221.0	221.0	215.5	212.8	212.8	207.3	201.7	196.2	190.7
75°	179.6	179.6	179.6	176.8	174.1	168.6	168.6	165.8	160.3	154.8	149.3
77.5°	140.9	138.1	138.1	135.4	132.6	129.9	129.9	127.1	121.6	118.8	113.3
80°	102.3	99.4	99.4	99.4	93.9	96.7	93.9	91.2	88.4	85.7	82.9
82.5°	66.4	69.1	69.1	66.4	63.6	63.6	63.6	60.7	60.7	58.0	55.2
85°	38.7	38.7	38.7	38.7	35.9	35.9	35.9	33.2	33.2	33.2	30.4
87.5°	16.5	16.5	16.5	16.5	16.5	16.5	13.8	13.8	13.8	13.8	13.8
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°	2036.7	2036.7	2036.7	2036.7	2036.7	2036.7	2036.7	2036.7	2036.7	2036.7	2036.7
2.5°	2058.9	2053.4	2050.5	2047.7	2047.7	2045.0	2042.2	2036.7	2036.7	2031.2	2028.5
5°	2069.9	2061.6	2056.1	2050.5	2047.7	2042.2	2036.7	2028.5	2025.7	2017.4	2009.0
7.5°	2072.7	2058.9	2053.4	2042.2	2036.7	2031.2	2020.2	2011.9	2000.8	1992.5	1981.5
10°	2061.6	2050.5	2036.7	2022.9	2020.2	2011.9	1995.3	1984.2	1970.5	1959.3	1942.8
12.5°	2045.0	2028.5	2014.7	1998.0	1989.8	1981.5	1964.8	1948.3	1928.9	1909.6	1893.1
15°	2017.4	1998.0	1978.7	1959.3	1948.3	1940.0	1920.6	1901.3	1881.9	1857.1	1840.5
17.5°	1976.0	1953.8	1934.5	1909.6	1898.6	1890.3	1865.4	1843.2	1818.4	1793.5	1777.0
20°	1923.4	1895.8	1873.7	1846.0	1837.7	1824.0	1799.0	1774.2	1746.6	1718.9	1699.6
22.5°	1854.4	1826.7	1801.8	1774.2	1760.3	1746.6	1721.6	1691.3	1663.7	1641.5	1622.2
25°	1774.2	1749.3	1718.9	1694.1	1677.4	1660.9	1633.2	1608.4	1583.5	1550.3	1531.0
27.5°	1685.7	1655.4	1633.2	1600.0	1583.5	1572.5	1542.1	1508.9	1486.8	1456.4	1434.2
30°	1586.3	1558.6	1533.8	1500.6	1484.1	1472.9	1445.4	1415.0	1392.8	1362.5	1340.3
32.5°	1481.2	1450.9	1420.5	1398.3	1379.0	1368.0	1337.6	1318.2	1290.6	1265.7	1240.9
35°	1368.0	1337.6	1315.4	1285.1	1274.0	1262.9	1238.0	1213.2	1188.3	1166.3	1146.8
37.5°	1246.4	1224.2	1199.4	1177.3	1169.0	1158.0	1127.6	1105.4	1086.1	1063.9	1047.4
40°	1127.6	1108.1	1091.6	1069.5	1055.7	1047.4	1025.2	1006.0	983.8	970.0	953.4
42.5°	1019.7	997.7	981.0	964.5	950.6	942.3	923.1	909.2	892.6	878.9	859.4
45°	906.4	895.4	876.1	862.2	853.9	842.9	829.0	812.5	798.7	787.6	773.8
47.5°	807.0	796.0	782.1	765.5	760.0	751.7	737.8	726.8	715.8	704.7	690.9
50°	715.8	701.9	690.9	679.9	674.4	666.0	652.2	646.7	638.4	627.3	619.0
52.5°	632.9	621.8	610.7	597.0	594.2	588.6	580.3	569.3	561.0	555.5	550.0
55°	558.3	547.1	538.9	527.8	525.1	519.6	508.6	502.9	497.4	491.9	486.4
57.5°	491.9	480.9	469.9	464.2	458.7	453.2	450.4	442.2	436.7	433.9	428.4
60°	431.2	420.0	411.8	403.5	400.7	398.0	392.5	387.0	381.3	375.8	373.1
62.5°	373.1	362.0	356.5	351.0	345.5	345.5	339.9	334.4	328.9	326.1	320.6
65°	320.6	315.1	306.8	298.4	295.7	295.7	287.4	284.6	281.9	276.4	270.9
67.5°	270.9	265.4	257.0	254.2	251.5	248.7	245.9	240.4	234.9	232.2	226.7
70°	226.7	221.0	215.5	212.8	210.0	207.3	201.7	199.0	193.5	190.7	188.0
72.5°	182.3	179.6	174.1	171.3	168.6	165.8	163.0	160.3	154.8	152.0	149.3
75°	146.5	143.8	138.1	135.4	132.6	132.6	129.9	124.4	121.6	121.6	118.8
77.5°	110.6	107.8	105.1	102.3	99.4	99.4	96.7	93.9	91.2	91.2	88.4
80°	80.1	77.4	74.6	74.6	74.6	71.9	69.1	69.1	66.4	66.4	63.6
82.5°	52.5	52.5	49.7	49.7	49.7	47.0	47.0	44.2	44.2	44.2	44.2
85°	30.4	30.4	30.4	27.7	27.7	27.7	27.7	27.7	27.7	24.9	27.7
87.5°	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	11.0	11.0	11.0
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°	2036.7	2036.7	2036.7	2036.7	2036.7	2036.7	2036.7	2036.7	2036.7	2036.7	2036.7
2.5°	2025.7	2022.9	2017.4	2017.4	2011.9	2011.9	2009.0	2006.3	2003.5	2000.8	1998.0
5°	2006.3	1995.3	1989.8	1987.0	1981.5	1978.7	1970.5	1964.8	1962.1	1956.6	1951.1
7.5°	1970.5	1959.3	1948.3	1945.6	1942.8	1931.8	1923.4	1915.1	1909.6	1904.1	1898.6
10°	1928.9	1917.9	1904.1	1898.6	1893.1	1879.2	1868.2	1859.9	1848.9	1837.7	1835.0
12.5°	1879.2	1862.7	1846.0	1840.5	1832.2	1818.4	1807.3	1793.5	1785.3	1771.5	1768.7
15°	1821.2	1801.8	1788.0	1774.2	1768.7	1754.8	1735.5	1724.4	1707.9	1702.4	1688.6
17.5°	1752.1	1732.8	1713.4	1707.9	1699.6	1680.2	1660.9	1647.1	1630.5	1622.2	1613.9
20°	1680.2	1655.4	1636.0	1630.5	1619.5	1602.8	1583.5	1569.7	1555.8	1539.3	1531.0
22.5°	1597.3	1569.7	1553.1	1539.3	1536.6	1517.1	1495.1	1484.1	1472.9	1459.2	1448.1
25°	1506.1	1481.2	1461.9	1450.9	1445.4	1428.7	1412.2	1398.3	1381.8	1373.5	1359.6
27.5°	1412.2	1395.6	1370.8	1359.6	1351.3	1337.6	1318.2	1309.9	1293.4	1282.3	1274.0
30°	1321.0	1296.1	1282.3	1268.4	1260.2	1246.4	1229.7	1221.5	1207.7	1196.6	1188.3
32.5°	1221.5	1204.9	1185.5	1180.0	1169.0	1155.1	1144.1	1130.3	1119.3	1108.1	1105.4
35°	1130.3	1108.1	1088.9	1083.4	1075.0	1061.2	1055.7	1047.4	1033.5	1030.8	1019.7
37.5°	1030.8	1019.7	997.7	989.3	986.6	975.5	964.5	959.0	950.6	942.3	939.6
40°	936.8	923.1	911.9	903.7	898.1	889.9	878.9	876.1	870.5	859.4	856.7
42.5°	848.4	834.6	823.5	820.7	812.5	804.2	798.7	790.3	787.6	784.8	779.3
45°	762.8	754.5	743.4	740.6	737.8	726.8	721.3	715.8	710.2	707.4	701.9
47.5°	685.4	677.1	668.7	666.0	660.5	657.7	649.4	646.7	638.4	635.7	632.9
50°	610.7	605.2	599.7	597.0	591.5	588.6	583.1	577.6	572.0	569.3	566.5
52.5°	544.4	538.9	533.3	530.6	527.8	522.3	516.8	511.3	508.6	505.7	502.9
55°	480.9	475.4	472.6	469.9	467.0	464.2	456.0	453.2	450.4	447.7	442.2
57.5°	422.8	417.3	411.8	411.8	409.0	406.2	400.7	395.2	395.2	389.7	384.1
60°	370.3	364.8	359.3	356.5	353.8	348.3	345.5	342.6	339.9	337.1	331.6
62.5°	315.1	312.3	306.8	306.8	301.2	298.4	295.7	292.9	290.2	284.6	281.9
65°	268.1	265.4	259.7	257.0	257.0	254.2	248.7	245.9	243.2	243.2	240.4
67.5°	223.9	221.0	215.5	212.8	212.8	210.0	207.3	207.3	204.5	201.7	204.5
70°	185.2	179.6	179.6	176.8	176.8	174.1	171.3	171.3	171.3	174.1	174.1
72.5°	146.5	143.8	140.9	140.9	140.9	140.9	138.1	138.1	140.9	143.8	143.8
75°	116.1	113.3	113.3	113.3	110.6	110.6	113.3	113.3	116.1	116.1	116.1
77.5°	85.7	85.7	85.7	85.7	85.7	85.7	88.4	88.4	91.2	91.2	91.2
80°	63.6	63.6	63.6	63.6	63.6	66.4	66.4	66.4	66.4	66.4	69.1
82.5°	44.2	44.2	44.2	44.2	44.2	44.2	44.2	47.0	47.0	47.0	47.0
85°	24.9	27.7	27.7	27.7	27.7	27.7	27.7	27.7	27.7	27.7	27.7
87.5°	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
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: P584420

CATALOG NUMBER: HC835D010-HM82555835-81WWW

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2036.7	2036.7	2036.7	2036.7	2036.7	2036.7	2036.7	2036.7
2.5°	1995.3	1995.3	1995.3	1998.0	1992.5	1992.5	1992.5	1992.5
5°	1948.3	1945.6	1942.8	1945.6	1940.0	1940.0	1937.3	1937.3
7.5°	1890.3	1887.4	1884.7	1884.7	1879.2	1879.2	1876.4	1873.7
10°	1826.7	1821.2	1824.0	1818.4	1815.7	1812.9	1810.2	1807.3
12.5°	1757.6	1752.1	1749.3	1743.8	1738.3	1735.5	1738.3	1732.8
15°	1683.0	1674.7	1671.9	1666.4	1660.9	1658.2	1658.2	1655.4
17.5°	1600.0	1594.5	1591.8	1586.3	1583.5	1578.0	1575.3	1572.5
20°	1522.7	1508.9	1511.6	1506.1	1503.4	1492.3	1492.3	1495.1
22.5°	1437.0	1428.7	1423.2	1417.7	1415.0	1409.4	1409.4	1406.7
25°	1351.3	1343.1	1340.3	1334.8	1332.1	1326.5	1323.8	1323.8
27.5°	1268.4	1257.4	1257.4	1251.9	1246.4	1243.6	1240.9	1238.0
30°	1180.0	1171.8	1169.0	1169.0	1166.3	1166.3	1158.0	1160.7
32.5°	1097.1	1091.6	1088.9	1083.4	1083.4	1080.6	1080.6	1072.2
35°	1014.2	1006.0	1008.7	1003.2	1000.4	997.7	1000.4	997.7
37.5°	934.1	928.6	928.6	923.1	923.1	920.3	917.5	923.1
40°	853.9	851.2	848.4	845.7	848.4	845.7	840.2	842.9
42.5°	773.8	773.8	771.0	771.0	768.3	768.3	768.3	768.3
45°	701.9	699.2	699.2	696.4	696.4	696.4	696.4	693.6
47.5°	630.1	627.3	627.3	627.3	624.5	624.5	621.8	624.5
50°	561.0	561.0	558.3	558.3	561.0	558.3	555.5	555.5
52.5°	497.4	497.4	494.7	494.7	491.9	489.1	491.9	491.9
55°	439.4	436.7	433.9	433.9	431.2	428.4	428.4	431.2
57.5°	384.1	381.3	378.6	378.6	373.1	370.3	370.3	370.3
60°	331.6	326.1	326.1	323.3	323.3	320.6	320.6	320.6
62.5°	281.9	279.1	279.1	279.1	279.1	276.4	276.4	276.4
65°	240.4	240.4	240.4	243.2	243.2	245.9	245.9	245.9
67.5°	207.3	210.0	210.0	210.0	212.8	212.8	212.8	210.0
70°	176.8	176.8	176.8	179.6	179.6	179.6	179.6	179.6
72.5°	146.5	146.5	146.5	146.5	146.5	146.5	146.5	146.5
75°	116.1	118.8	118.8	118.8	116.1	118.8	118.8	116.1
77.5°	91.2	91.2	91.2	91.2	91.2	91.2	91.2	91.2
80°	69.1	69.1	69.1	69.1	69.1	69.1	69.1	69.1
82.5°	47.0	47.0	47.0	47.0	47.0	47.0	47.0	47.0
85°	27.7	27.7	27.7	27.7	27.7	27.7	27.7	27.7
87.5°	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
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)