

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: P584395

Luminaire Tested: **HC835D010-HM82555830-81RWWC**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584395
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-HM82555830-81RWWC
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3712.9 lumens
Efficiency: N/A
Efficacy: 110.2 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

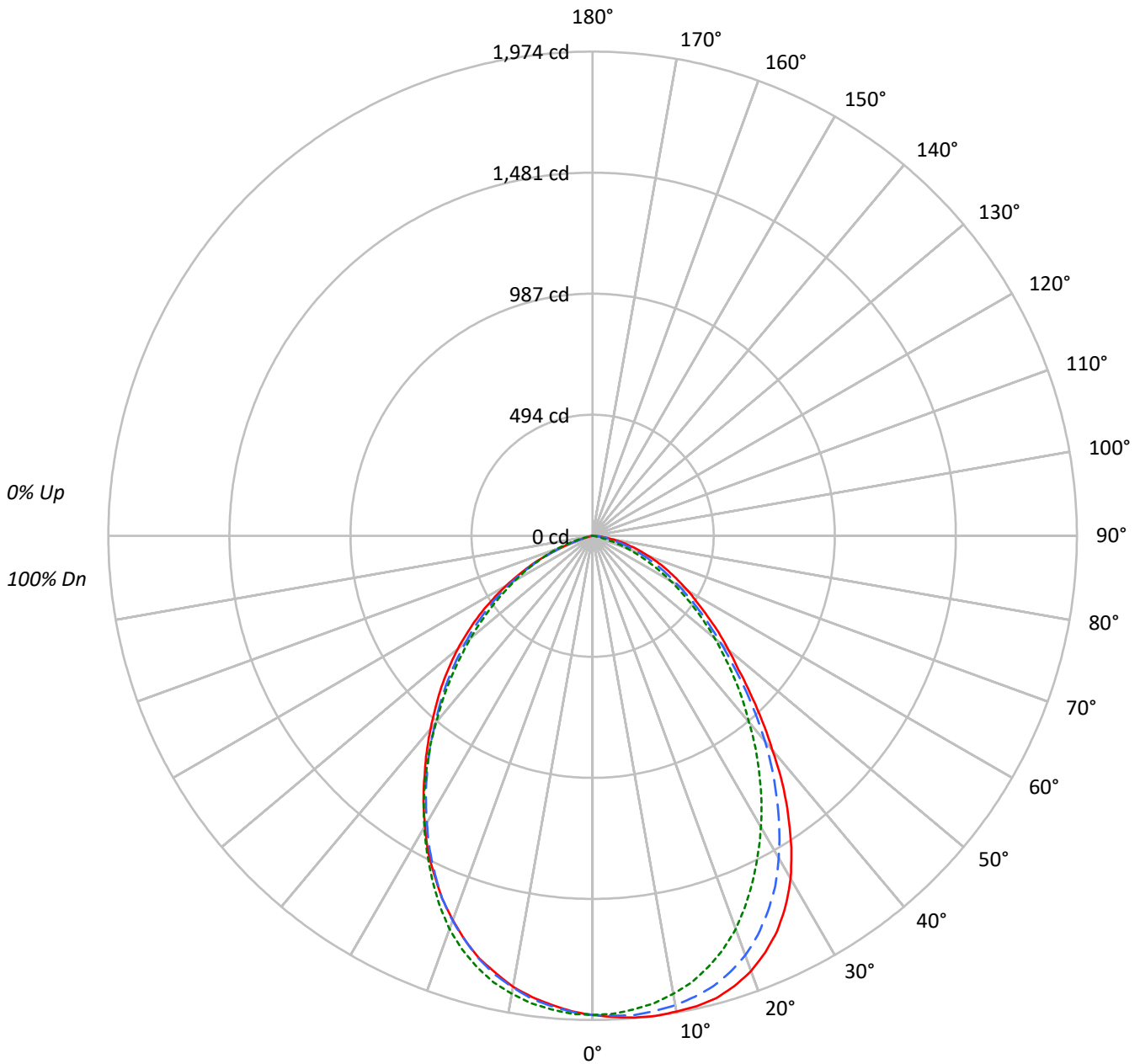
Input Watts (W): 33.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P584395

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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			100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88			88
2	103	96	90	85	100	94	89	84	91	86	82	87	84	81	84	82	79	77			77
3	95	86	79	73	93	84	78	73	82	76	72	79	74	70	76	73	69	67			67
4	88	77	70	64	86	76	69	64	74	68	63	72	66	62	69	65	61	59			59
5	81	70	62	56	80	69	62	56	67	61	56	65	59	55	63	58	54	52			52
6	76	64	56	50	74	63	55	50	61	55	50	60	54	49	58	53	49	47			47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42			42
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38			38
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35			35
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32			32

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	60242	60242	60242
5°	61038	59986	59423
10°	61663	59374	58478
15°	62281	58121	56956
20°	61968	55976	54693
25°	60522	52625	51917
30°	57487	48849	48664
35°	52333	44574	44966
40°	45881	39896	41365
45°	39584	35489	37992
50°	34660	31154	34406
55°	30709	26779	30289
60°	27673	22523	25088
65°	24932	18073	19219
70°	21873	13163	10585
75°	18646	6839	2800
80°	14366	1847	462
85°	9234	0	0



TEST NUMBER: P584395

CATALOG NUMBER: HC835D010-HM82555830-81RWWC

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.3	5.0
10°-20°	518.2	14.0
20°-30°	735.5	19.8
30°-40°	774.2	20.9
40°-50°	658.6	17.7
50°-60°	475.9	12.8
60°-70°	270.7	7.3
70°-80°	85.3	2.3
80°-90°	10.4	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°	1437.9	38.7
0°-40°	2212.1	59.6
0°-60°	3346.6	90.1
0°-90°	3712.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3712.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1954	1954	1954	1954	1954	
5°	1972	1961	1938	1925	1920	188
15°	1951	1902	1821	1787	1784	549
25°	1779	1690	1547	1521	1526	815
35°	1390	1309	1184	1176	1194	865
45°	908	874	814	835	871	706
55°	571	530	498	527	563	515
65°	342	295	248	245	263	339
75°	156	120	57	26	24	168
85°	26	16	0	0	0	34
90°	0	0	0	0	0	



TEST NUMBER: P584395

CATALOG NUMBER: HC835D010-HM82555830-81RWWC

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1953.6	1953.6	1953.6	1953.6	1953.6	1953.6	1953.6	1953.6	1953.6	1953.6	1953.6
2.5°	1964.0	1966.6	1961.4	1961.4	1966.6	1961.4	1964.0	1964.0	1961.4	1961.4	1958.8
5°	1971.9	1969.3	1969.3	1969.3	1971.9	1966.6	1964.0	1966.6	1961.4	1961.4	1961.4
7.5°	1974.4	1974.4	1971.9	1969.3	1969.3	1969.3	1966.6	1964.0	1961.4	1956.2	1953.6
10°	1969.3	1969.3	1971.9	1966.6	1966.6	1961.4	1961.4	1956.2	1956.2	1950.9	1943.2
12.5°	1964.0	1961.4	1961.4	1956.2	1956.2	1950.9	1950.9	1943.2	1940.5	1932.7	1924.9
15°	1950.9	1948.4	1943.2	1940.5	1937.9	1935.4	1930.1	1927.5	1919.7	1909.3	1901.5
17.5°	1924.9	1922.3	1919.7	1914.5	1909.3	1906.6	1904.0	1896.2	1885.8	1878.0	1864.9
20°	1888.4	1885.8	1885.8	1878.0	1875.3	1867.6	1864.9	1854.5	1846.6	1831.0	1820.6
22.5°	1838.8	1841.4	1836.2	1831.0	1825.8	1818.0	1812.7	1802.3	1789.2	1773.6	1760.6
25°	1778.8	1781.4	1776.3	1771.0	1763.2	1757.9	1752.8	1737.1	1724.0	1705.8	1690.1
27.5°	1703.2	1703.2	1703.2	1697.9	1685.0	1682.4	1677.1	1661.5	1643.2	1627.6	1611.9
30°	1614.5	1611.9	1611.9	1604.1	1598.9	1588.4	1580.6	1567.6	1554.5	1536.3	1518.0
32.5°	1507.6	1510.2	1502.4	1497.1	1489.4	1489.4	1478.9	1468.5	1452.8	1434.6	1416.3
35°	1390.2	1392.8	1387.6	1385.0	1371.9	1369.3	1366.7	1353.7	1343.2	1330.3	1309.3
37.5°	1270.2	1267.6	1265.0	1265.0	1257.2	1251.9	1246.8	1239.0	1223.3	1212.9	1202.4
40°	1139.8	1139.8	1139.8	1137.3	1134.6	1129.4	1126.7	1121.6	1111.1	1100.7	1092.8
42.5°	1022.5	1022.5	1019.9	1017.2	1012.0	1014.6	1009.4	1004.2	993.7	986.0	980.7
45°	907.7	907.7	907.7	910.2	905.1	897.3	897.3	892.0	886.8	881.6	873.8
47.5°	805.9	813.8	808.5	805.9	808.5	798.1	798.1	793.0	787.7	782.5	772.0
50°	722.5	722.5	722.5	717.2	714.6	714.6	706.8	701.7	699.0	693.8	683.3
52.5°	646.8	641.6	641.6	639.0	636.4	631.2	631.2	626.0	615.5	610.4	602.5
55°	571.2	571.2	568.6	565.9	563.4	560.8	558.1	550.4	545.1	537.3	529.5
57.5°	503.4	508.7	506.0	500.8	495.6	495.6	490.3	485.2	477.3	469.5	461.7
60°	448.7	446.0	446.0	443.4	438.2	435.6	433.0	425.2	417.3	409.5	401.7
62.5°	391.3	391.3	391.3	386.0	380.8	378.2	375.6	370.4	360.0	352.1	346.9
65°	341.7	339.0	336.5	333.9	331.2	326.0	323.5	318.2	310.4	302.6	294.7
67.5°	292.1	289.6	289.6	286.9	279.1	276.5	276.5	268.6	260.8	253.0	245.2
70°	242.6	242.6	242.6	237.3	234.7	232.2	229.5	224.3	216.5	208.7	200.8
72.5°	200.8	198.3	198.3	195.6	187.8	185.2	182.6	177.3	169.5	164.4	159.1
75°	156.5	156.5	153.9	151.3	148.7	146.0	143.4	138.2	130.5	122.6	120.0
77.5°	120.0	117.4	117.4	114.8	109.5	107.0	107.0	101.7	93.9	88.7	83.5
80°	80.9	83.5	80.9	78.2	75.6	73.1	70.4	67.8	62.7	57.4	52.1
82.5°	49.6	52.1	49.6	49.6	47.0	44.3	44.3	39.2	36.5	33.9	31.3
85°	26.1	26.1	26.1	26.1	23.5	23.5	23.5	20.8	18.2	15.7	15.7
87.5°	7.8	10.4	7.8	7.8	7.8	7.8	7.8	7.8	5.3	5.3	5.3
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: P584395

CATALOG NUMBER: HC835D010-HM82555830-81RWWC

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1953.6	1953.6	1953.6	1953.6	1953.6	1953.6	1953.6	1953.6	1953.6	1953.6	1953.6
2.5°	1961.4	1958.8	1956.2	1956.2	1956.2	1956.2	1956.2	1953.6	1950.9	1950.9	1950.9
5°	1956.2	1956.2	1956.2	1953.6	1950.9	1950.9	1945.8	1943.2	1940.5	1937.9	1935.4
7.5°	1950.9	1945.8	1943.2	1940.5	1937.9	1937.9	1932.7	1927.5	1927.5	1922.3	1917.0
10°	1935.4	1932.7	1927.5	1922.3	1919.7	1917.0	1911.9	1904.0	1901.5	1896.2	1891.0
12.5°	1917.0	1911.9	1906.6	1896.2	1893.6	1891.0	1880.5	1872.7	1867.6	1864.9	1851.9
15°	1893.6	1883.1	1875.3	1862.3	1859.7	1854.5	1846.6	1838.8	1828.4	1820.6	1815.3
17.5°	1851.9	1841.4	1828.4	1815.3	1810.2	1810.2	1797.1	1786.7	1773.6	1768.4	1757.9
20°	1802.3	1789.2	1778.8	1763.2	1755.3	1747.5	1739.7	1724.0	1713.6	1705.8	1692.8
22.5°	1744.9	1726.7	1713.6	1697.9	1685.0	1677.1	1664.0	1651.1	1638.0	1630.1	1619.7
25°	1671.9	1656.2	1635.4	1619.7	1611.9	1601.5	1585.8	1572.7	1559.8	1546.7	1541.5
27.5°	1591.1	1570.2	1551.9	1533.7	1525.9	1518.0	1499.8	1484.1	1473.7	1460.6	1455.5
30°	1502.4	1481.4	1460.6	1445.0	1437.1	1424.1	1413.6	1395.4	1382.4	1371.9	1358.9
32.5°	1400.6	1385.0	1366.7	1343.2	1338.0	1327.6	1311.9	1304.1	1288.4	1280.7	1270.2
35°	1291.1	1280.7	1262.5	1244.1	1236.3	1231.1	1218.0	1202.4	1192.0	1184.1	1179.0
37.5°	1186.7	1173.7	1155.5	1142.4	1137.3	1129.4	1113.8	1105.9	1095.5	1090.3	1079.9
40°	1074.6	1061.5	1048.5	1040.7	1032.9	1027.6	1017.2	1009.4	999.0	991.1	988.6
42.5°	965.1	957.2	946.8	936.4	933.7	925.9	920.7	912.9	905.1	902.5	894.7
45°	865.9	858.1	847.7	837.3	834.6	829.4	826.9	819.0	813.8	813.8	813.8
47.5°	766.8	759.1	748.6	743.4	746.0	735.6	735.6	732.9	727.7	727.7	730.3
50°	678.2	667.8	665.1	659.9	654.7	649.4	652.1	644.3	644.3	649.4	646.8
52.5°	594.7	584.3	581.6	576.5	573.8	573.8	571.2	571.2	568.6	571.2	571.2
55°	519.1	511.2	506.0	500.8	498.1	498.1	498.1	495.6	493.0	498.1	500.8
57.5°	451.3	448.7	443.4	435.6	433.0	430.3	427.8	427.8	427.8	427.8	430.3
60°	391.3	386.0	380.8	372.9	372.9	370.4	367.8	365.2	365.2	365.2	365.2
62.5°	339.0	331.2	323.5	318.2	315.6	313.0	310.4	305.1	305.1	305.1	305.1
65°	286.9	279.1	273.9	268.6	263.4	263.4	258.2	255.7	250.4	247.7	242.6
67.5°	237.3	232.2	226.9	219.1	216.5	213.8	208.7	206.1	198.3	195.6	193.0
70°	193.0	185.2	179.9	174.8	172.2	166.9	161.7	156.5	151.3	146.0	140.9
72.5°	151.3	143.4	138.2	133.0	127.8	127.8	120.0	114.8	107.0	101.7	93.9
75°	112.1	104.3	99.1	91.3	88.7	86.0	78.2	73.1	65.2	57.4	52.1
77.5°	75.6	70.4	65.2	57.4	52.1	52.1	44.3	39.2	33.9	26.1	23.5
80°	47.0	41.7	36.5	31.3	31.3	26.1	23.5	18.2	13.1	10.4	7.8
82.5°	26.1	23.5	20.8	15.7	15.7	13.1	10.4	7.8	5.3	2.6	2.6
85°	13.1	10.4	7.8	7.8	5.3	5.3	5.3	2.6	2.6	0.0	0.0
87.5°	5.3	2.6	2.6	2.6	2.6	2.6	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: P584395

CATALOG NUMBER: HC835D010-HM82555830-81RWWC

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1953.6	1953.6	1953.6	1953.6	1953.6	1953.6	1953.6	1953.6	1953.6	1953.6	1953.6
2.5°	1948.4	1948.4	1945.8	1945.8	1945.8	1943.2	1945.8	1943.2	1943.2	1943.2	1945.8
5°	1937.9	1932.7	1932.7	1930.1	1930.1	1927.5	1930.1	1927.5	1924.9	1922.3	1924.9
7.5°	1917.0	1911.9	1909.3	1906.6	1906.6	1906.6	1904.0	1901.5	1904.0	1896.2	1901.5
10°	1888.4	1885.8	1880.5	1878.0	1875.3	1878.0	1875.3	1870.1	1870.1	1870.1	1867.6
12.5°	1851.9	1846.6	1844.1	1841.4	1836.2	1836.2	1838.8	1833.7	1833.7	1828.4	1828.4
15°	1807.5	1802.3	1797.1	1797.1	1791.8	1791.8	1789.2	1789.2	1786.7	1784.1	1784.1
17.5°	1752.8	1744.9	1739.7	1742.4	1739.7	1737.1	1737.1	1731.8	1729.3	1731.8	1731.8
20°	1687.5	1682.4	1677.1	1679.7	1674.6	1671.9	1674.6	1666.7	1669.3	1669.3	1669.3
22.5°	1614.5	1611.9	1604.1	1604.1	1598.9	1596.2	1598.9	1598.9	1601.5	1598.9	1598.9
25°	1533.7	1528.4	1523.3	1523.3	1520.6	1518.0	1520.6	1523.3	1520.6	1523.3	1523.3
27.5°	1447.5	1439.8	1439.8	1434.6	1434.6	1437.1	1434.6	1437.1	1439.8	1439.8	1445.0
30°	1353.7	1351.1	1348.5	1345.8	1345.8	1348.5	1348.5	1348.5	1351.1	1356.3	1356.3
32.5°	1265.0	1259.8	1254.5	1254.5	1259.8	1257.2	1259.8	1259.8	1265.0	1265.0	1270.2
35°	1168.5	1168.5	1163.3	1165.9	1165.9	1165.9	1165.9	1171.2	1176.3	1179.0	1184.1
37.5°	1079.9	1072.0	1074.6	1074.6	1077.2	1074.6	1082.4	1082.4	1087.7	1087.7	1092.8
40°	983.3	983.3	986.0	983.3	986.0	986.0	991.1	996.4	999.0	1004.2	1006.8
42.5°	892.0	897.3	892.0	894.7	897.3	899.8	902.5	905.1	915.5	920.7	928.6
45°	808.5	811.2	813.8	816.4	813.8	819.0	821.6	826.9	834.6	837.3	839.9
47.5°	727.7	730.3	732.9	735.6	735.6	740.7	743.4	748.6	753.8	756.4	759.1
50°	649.4	654.7	657.3	657.3	659.9	665.1	670.3	670.3	675.6	683.3	686.0
52.5°	579.0	579.0	584.3	586.9	589.4	589.4	597.3	600.0	602.5	607.7	612.9
55°	500.8	508.7	511.2	511.2	516.5	521.6	524.2	526.9	526.9	537.3	537.3
57.5°	433.0	435.6	440.7	440.7	440.7	448.7	448.7	453.8	456.4	459.1	464.2
60°	365.2	370.4	370.4	372.9	370.4	375.6	378.2	383.4	386.0	388.6	391.3
62.5°	302.6	302.6	305.1	305.1	305.1	305.1	310.4	310.4	315.6	318.2	320.8
65°	242.6	242.6	242.6	242.6	242.6	242.6	242.6	242.6	245.2	245.2	250.4
67.5°	187.8	185.2	179.9	182.6	179.9	179.9	177.3	177.3	179.9	179.9	185.2
70°	135.6	133.0	127.8	127.8	125.2	122.6	120.0	117.4	114.8	114.8	114.8
72.5°	88.7	83.5	75.6	73.1	73.1	67.8	62.7	60.0	60.0	60.0	60.0
75°	44.3	39.2	33.9	31.3	31.3	26.1	28.6	26.1	26.1	26.1	26.1
77.5°	18.2	13.1	10.4	10.4	10.4	7.8	7.8	7.8	7.8	7.8	7.8
80°	5.3	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
82.5°	2.6	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: P584395

CATALOG NUMBER: HC835D010-HM82555830-81RWWC

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1953.6	1953.6	1953.6	1953.6	1953.6	1953.6	1953.6	1953.6
2.5°	1943.2	1943.2	1937.9	1940.5	1940.5	1940.5	1940.5	1940.5
5°	1919.7	1922.3	1919.7	1922.3	1922.3	1919.7	1919.7	1919.7
7.5°	1896.2	1898.8	1896.2	1898.8	1898.8	1898.8	1896.2	1896.2
10°	1867.6	1867.6	1867.6	1867.6	1867.6	1864.9	1867.6	1867.6
12.5°	1828.4	1828.4	1828.4	1831.0	1831.0	1828.4	1828.4	1825.8
15°	1786.7	1781.4	1784.1	1786.7	1784.1	1784.1	1784.1	1784.1
17.5°	1729.3	1731.8	1729.3	1729.3	1729.3	1729.3	1731.8	1729.3
20°	1669.3	1669.3	1671.9	1669.3	1669.3	1669.3	1669.3	1666.7
22.5°	1601.5	1598.9	1598.9	1601.5	1601.5	1598.9	1601.5	1601.5
25°	1525.9	1528.4	1525.9	1525.9	1528.4	1528.4	1528.4	1525.9
27.5°	1445.0	1447.5	1450.2	1447.5	1447.5	1447.5	1450.2	1452.8
30°	1361.5	1366.7	1361.5	1361.5	1366.7	1364.2	1366.7	1366.7
32.5°	1272.9	1280.7	1275.4	1280.7	1280.7	1283.3	1280.7	1283.3
35°	1184.1	1192.0	1192.0	1192.0	1194.5	1197.2	1197.2	1194.5
37.5°	1100.7	1103.2	1103.2	1108.5	1111.1	1113.8	1113.8	1111.1
40°	1014.6	1019.9	1022.5	1022.5	1022.5	1027.6	1032.9	1027.6
42.5°	931.2	933.7	936.4	936.4	941.6	944.1	946.8	946.8
45°	850.3	855.5	858.1	860.8	863.3	868.6	865.9	871.2
47.5°	766.8	774.6	777.3	779.9	785.0	787.7	790.3	793.0
50°	691.2	696.4	696.4	701.7	709.5	709.5	714.6	717.2
52.5°	615.5	618.2	620.8	623.3	628.6	633.9	633.9	639.0
55°	542.6	545.1	545.1	547.7	550.4	560.8	563.4	563.4
57.5°	466.9	466.9	472.1	474.6	477.3	482.6	482.6	482.6
60°	393.9	396.4	396.4	399.1	401.7	406.8	409.5	406.8
62.5°	320.8	323.5	323.5	326.0	331.2	333.9	331.2	331.2
65°	253.0	255.7	255.7	258.2	263.4	263.4	260.8	263.4
67.5°	185.2	185.2	185.2	185.2	185.2	185.2	185.2	185.2
70°	117.4	114.8	112.1	114.8	114.8	114.8	112.1	117.4
72.5°	57.4	60.0	60.0	60.0	60.0	60.0	60.0	57.4
75°	26.1	26.1	23.5	23.5	23.5	26.1	26.1	23.5
77.5°	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
80°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
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



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













(END OF REPORT)