

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: P584403

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

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584403
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-HM82555830-81WWW
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3546.1 lumens
Efficiency: N/A
Efficacy: 105.2 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

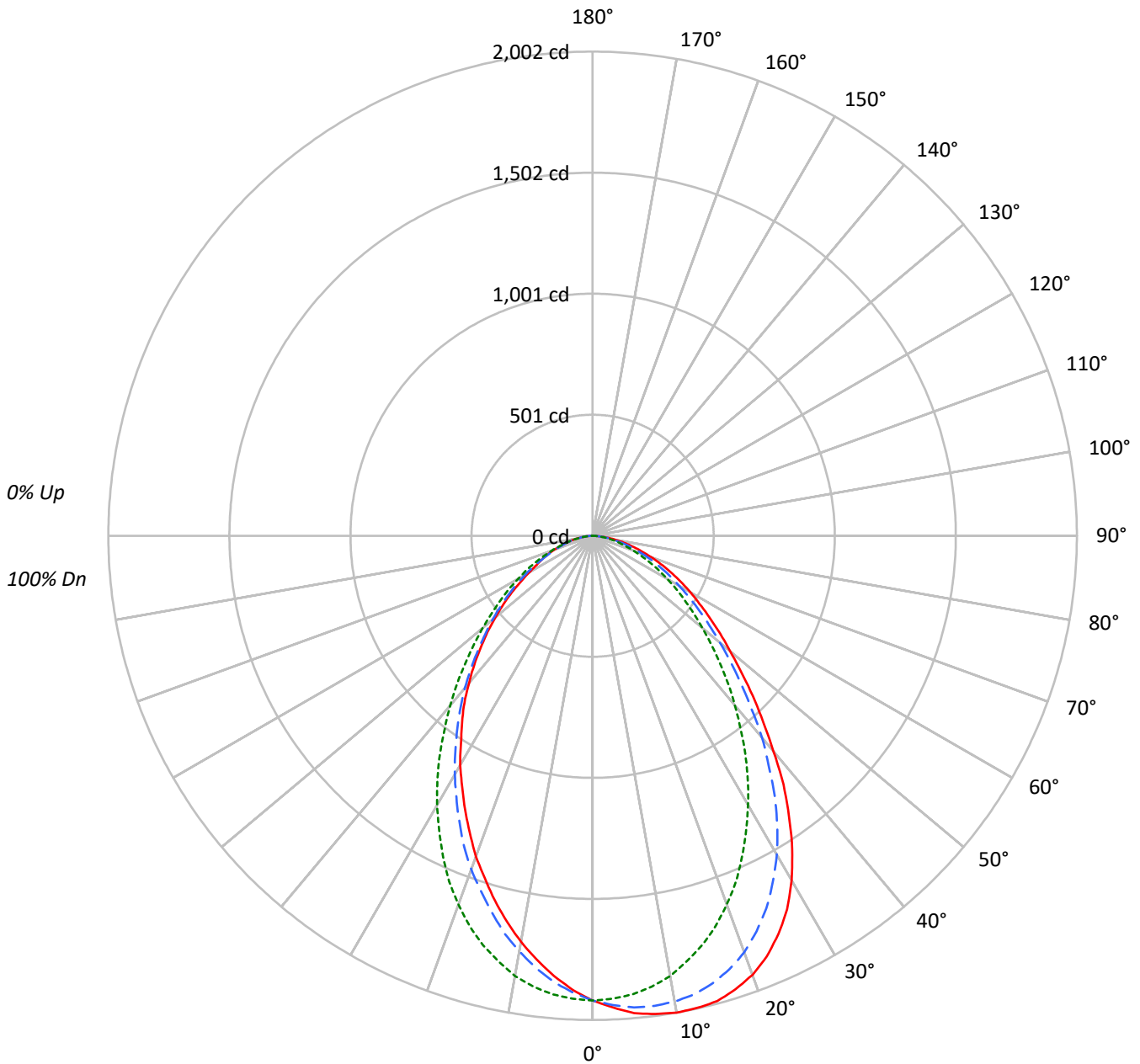
Input Watts (W): 33.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	59252	59252	59252
5°	61332	58909	56569
10°	62693	57877	53387
15°	63586	55931	49853
20°	63396	53213	46283
25°	61825	49760	42489
30°	58577	45765	38989
35°	53293	41416	35427
40°	46807	36832	32006
45°	40818	32402	28533
50°	35519	28390	25138
55°	31676	24951	21865
60°	28776	21869	18650
65°	25873	19022	16935
70°	23036	16220	15282
75°	20195	13678	13046
80°	17119	11099	11578
85°	12914	8314	9234



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	180.0	5.1
10°-20°	495.9	14.0
20°-30°	688.3	19.4
30°-40°	711.6	20.1
40°-50°	595.9	16.8
50°-60°	432.6	12.2
60°-70°	273.0	7.7
70°-80°	135.2	3.8
80°-90°	33.6	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°	1364.2	38.5
0°-40°	2075.8	58.5
0°-60°	3104.2	87.5
0°-90°	3546.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3546.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1922	1922	1922	1922	1922	
5°	1981	1958	1903	1851	1828	190
15°	1992	1916	1752	1611	1562	561
25°	1817	1700	1462	1304	1249	833
35°	1416	1311	1100	975	941	882
45°	936	868	743	670	654	724
55°	589	537	464	425	407	532
65°	355	310	261	229	232	354
75°	170	141	115	110	110	182
85°	36	29	24	26	26	44
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°	1921.5	1921.5	1921.5	1921.5	1921.5	1921.5	1921.5	1921.5	1921.5	1921.5	1921.5
2.5°	1952.7	1952.7	1955.3	1952.7	1952.7	1952.7	1950.1	1950.1	1947.5	1947.5	1942.3
5°	1981.4	1976.2	1981.4	1976.2	1976.2	1976.2	1973.6	1968.3	1965.7	1960.5	1957.9
7.5°	1994.4	1991.8	1991.8	1989.2	1989.2	1986.6	1984.0	1981.4	1970.9	1968.3	1960.5
10°	2002.2	1999.6	1999.6	1997.1	1991.8	1991.8	1986.6	1984.0	1970.9	1965.7	1955.3
12.5°	1999.6	1999.6	1999.6	1997.1	1989.2	1986.6	1981.4	1973.6	1963.2	1952.7	1942.3
15°	1991.8	1991.8	1986.6	1984.0	1976.2	1970.9	1968.3	1955.3	1944.8	1931.9	1916.2
17.5°	1965.7	1965.7	1963.2	1957.9	1950.1	1944.8	1939.7	1926.6	1916.2	1895.4	1879.7
20°	1931.9	1929.3	1926.6	1918.8	1910.9	1908.4	1900.5	1882.3	1869.2	1853.7	1832.8
22.5°	1882.3	1879.7	1877.1	1871.9	1858.8	1853.7	1848.4	1835.3	1812.0	1796.3	1770.2
25°	1817.1	1817.1	1812.0	1804.1	1791.0	1785.9	1778.1	1765.0	1744.2	1720.7	1699.8
27.5°	1741.5	1738.9	1731.1	1725.8	1715.4	1707.6	1694.6	1679.0	1658.2	1639.8	1613.8
30°	1645.1	1645.1	1639.8	1632.0	1619.0	1613.8	1603.4	1585.1	1564.2	1540.7	1522.5
32.5°	1535.6	1535.6	1527.7	1522.5	1514.8	1501.7	1499.1	1478.2	1460.0	1441.7	1420.8
35°	1415.7	1418.2	1413.0	1402.6	1389.6	1389.6	1384.4	1366.1	1345.2	1327.0	1311.3
37.5°	1295.8	1287.8	1285.3	1280.1	1272.3	1261.9	1256.6	1248.8	1230.6	1217.5	1194.0
40°	1162.8	1165.4	1160.1	1155.0	1152.4	1144.4	1141.9	1128.9	1115.8	1100.2	1089.7
42.5°	1042.9	1042.9	1042.9	1037.6	1032.4	1024.5	1022.0	1014.1	998.5	988.1	972.4
45°	936.0	928.1	928.1	925.5	922.9	917.7	909.9	904.6	894.2	886.4	868.2
47.5°	831.7	834.3	831.7	829.0	821.2	818.6	816.0	805.5	795.1	787.3	774.3
50°	740.4	745.6	740.4	740.4	735.2	732.6	727.4	719.5	711.7	698.7	685.6
52.5°	664.8	664.8	662.3	659.6	651.7	646.6	643.9	641.3	628.4	617.9	607.5
55°	589.2	591.8	591.8	584.0	581.4	576.1	573.6	565.7	560.5	544.9	537.1
57.5°	524.0	521.4	524.0	518.9	513.6	508.4	505.8	500.5	492.7	482.3	471.9
60°	466.6	461.5	461.5	458.8	453.7	451.0	445.8	438.0	430.2	419.8	411.9
62.5°	409.4	406.7	404.1	401.4	396.3	393.7	391.0	383.2	375.5	367.5	359.8
65°	354.6	354.6	352.0	346.7	344.2	341.5	338.9	333.8	323.2	318.1	310.3
67.5°	305.0	302.4	302.4	297.2	292.0	289.4	289.4	284.2	276.4	268.5	263.3
70°	255.5	258.0	255.5	252.9	247.6	247.6	242.5	239.8	229.4	226.8	219.0
72.5°	211.2	211.2	208.6	208.6	203.3	200.8	200.8	195.5	190.4	185.1	179.9
75°	169.5	169.5	169.5	166.9	164.2	159.0	159.0	156.5	151.2	146.0	140.8
77.5°	133.0	130.3	130.3	127.7	125.2	122.6	122.6	119.9	114.8	112.1	106.9
80°	96.4	93.8	93.8	93.8	88.7	91.3	88.7	86.0	83.4	80.9	78.2
82.5°	62.5	65.2	65.2	62.5	60.0	60.0	60.0	57.4	57.4	54.7	52.1
85°	36.5	36.5	36.5	36.5	33.9	33.9	33.9	31.3	31.3	31.3	28.6
87.5°	15.7	15.7	15.7	15.7	15.7	15.7	13.1	13.1	13.1	13.1	13.1
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°	1921.5	1921.5	1921.5	1921.5	1921.5	1921.5	1921.5	1921.5	1921.5	1921.5	1921.5
2.5°	1942.3	1937.0	1934.4	1931.9	1931.9	1929.3	1926.6	1921.5	1921.5	1916.2	1913.6
5°	1952.7	1944.8	1939.7	1934.4	1931.9	1926.6	1921.5	1913.6	1910.9	1903.1	1895.4
7.5°	1955.3	1942.3	1937.0	1926.6	1921.5	1916.2	1905.8	1898.0	1887.6	1879.7	1869.2
10°	1944.8	1934.4	1921.5	1908.4	1905.8	1898.0	1882.3	1871.9	1858.8	1848.4	1832.8
12.5°	1929.3	1913.6	1900.5	1884.9	1877.1	1869.2	1853.7	1838.0	1819.8	1801.4	1785.9
15°	1903.1	1884.9	1866.7	1848.4	1838.0	1830.2	1812.0	1793.6	1775.4	1752.0	1736.3
17.5°	1864.1	1843.2	1824.9	1801.4	1791.0	1783.2	1759.7	1738.9	1715.4	1691.9	1676.4
20°	1814.5	1788.5	1767.6	1741.5	1733.7	1720.7	1697.2	1673.7	1647.7	1621.6	1603.4
22.5°	1749.3	1723.3	1699.8	1673.7	1660.7	1647.7	1624.2	1595.5	1569.5	1548.7	1530.3
25°	1673.7	1650.2	1621.6	1598.1	1582.4	1566.9	1540.7	1517.3	1493.9	1462.5	1444.3
27.5°	1590.3	1561.6	1540.7	1509.5	1493.9	1483.5	1454.7	1423.5	1402.6	1374.0	1353.0
30°	1496.4	1470.4	1446.9	1415.7	1400.0	1389.6	1363.4	1334.8	1314.0	1285.3	1264.5
32.5°	1397.3	1368.7	1340.1	1319.2	1300.9	1290.5	1261.9	1243.5	1217.5	1194.0	1170.6
35°	1290.5	1261.9	1241.0	1212.3	1201.8	1191.4	1167.9	1144.4	1121.1	1100.2	1081.9
37.5°	1175.8	1155.0	1131.5	1110.7	1102.8	1092.3	1063.7	1042.9	1024.5	1003.7	988.1
40°	1063.7	1045.5	1029.8	1009.0	995.9	988.1	967.3	948.9	928.1	915.0	899.5
42.5°	962.0	941.1	925.5	909.9	896.8	889.0	870.7	857.8	842.1	829.0	810.8
45°	855.1	844.7	826.5	813.4	805.5	795.1	782.2	766.5	753.4	743.0	729.9
47.5°	761.2	750.8	737.8	722.2	717.0	709.1	696.0	685.6	675.2	664.8	651.7
50°	675.2	662.3	651.7	641.3	636.1	628.4	615.3	610.0	602.2	591.8	584.0
52.5°	597.0	586.5	576.1	563.2	560.5	555.3	547.5	537.1	529.3	524.0	518.9
55°	526.6	516.2	508.4	498.0	495.4	490.1	479.7	474.5	469.3	464.1	458.8
57.5°	464.1	453.7	443.3	438.0	432.7	427.6	424.9	417.1	411.9	409.4	404.1
60°	406.7	396.3	388.5	380.6	378.0	375.5	370.2	365.0	359.8	354.6	352.0
62.5°	352.0	341.5	336.3	331.1	325.9	325.9	320.7	315.4	310.3	307.6	302.4
65°	302.4	297.2	289.4	281.5	279.0	279.0	271.1	268.5	266.0	260.7	255.5
67.5°	255.5	250.3	242.5	239.8	237.2	234.7	232.1	226.8	221.6	219.0	213.7
70°	213.7	208.6	203.3	200.8	198.1	195.5	190.4	187.7	182.5	179.9	177.3
72.5°	172.0	169.5	164.2	161.6	159.0	156.5	153.8	151.2	146.0	143.4	140.8
75°	138.1	135.6	130.3	127.7	125.2	125.2	122.6	117.3	114.8	114.8	112.1
77.5°	104.2	101.7	99.1	96.4	93.8	93.8	91.3	88.7	86.0	86.0	83.4
80°	75.6	73.0	70.4	70.4	70.4	67.8	65.2	65.2	62.5	62.5	60.0
82.5°	49.5	49.5	47.0	47.0	47.0	44.3	44.3	41.7	41.7	41.7	41.7
85°	28.6	28.6	28.6	26.1	26.1	26.1	26.1	26.1	26.1	23.5	26.1
87.5°	13.1	13.1	13.1	13.1	13.1	13.1	13.1	13.1	10.4	10.4	10.4
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°	1921.5	1921.5	1921.5	1921.5	1921.5	1921.5	1921.5	1921.5	1921.5	1921.5	1921.5
2.5°	1910.9	1908.4	1903.1	1903.1	1898.0	1898.0	1895.4	1892.7	1890.1	1887.6	1884.9
5°	1892.7	1882.3	1877.1	1874.5	1869.2	1866.7	1858.8	1853.7	1851.0	1845.8	1840.6
7.5°	1858.8	1848.4	1838.0	1835.3	1832.8	1822.4	1814.5	1806.7	1801.4	1796.3	1791.0
10°	1819.8	1809.3	1796.3	1791.0	1785.9	1772.8	1762.4	1754.6	1744.2	1733.7	1731.1
12.5°	1772.8	1757.2	1741.5	1736.3	1728.5	1715.4	1705.0	1691.9	1684.1	1671.1	1668.6
15°	1718.1	1699.8	1686.8	1673.7	1668.6	1655.5	1637.2	1626.8	1611.2	1605.9	1593.0
17.5°	1652.9	1634.7	1616.3	1611.2	1603.4	1585.1	1566.9	1553.8	1538.2	1530.3	1522.5
20°	1585.1	1561.6	1543.4	1538.2	1527.7	1512.1	1493.9	1480.8	1467.8	1452.1	1444.3
22.5°	1506.8	1480.8	1465.2	1452.1	1449.6	1431.3	1410.4	1400.0	1389.6	1376.5	1366.1
25°	1420.8	1397.3	1379.1	1368.7	1363.4	1347.9	1332.2	1319.2	1303.5	1295.8	1282.7
27.5°	1332.2	1316.6	1293.1	1282.7	1274.9	1261.9	1243.5	1235.7	1220.2	1209.7	1201.8
30°	1246.2	1222.7	1209.7	1196.7	1188.8	1175.8	1160.1	1152.4	1139.3	1128.9	1121.1
32.5°	1152.4	1136.7	1118.5	1113.2	1102.8	1089.7	1079.3	1066.3	1055.9	1045.5	1042.9
35°	1066.3	1045.5	1027.2	1022.0	1014.1	1001.2	995.9	988.1	975.1	972.4	962.0
37.5°	972.4	962.0	941.1	933.4	930.7	920.3	909.9	904.6	896.8	889.0	886.4
40°	883.8	870.7	860.3	852.5	847.3	839.4	829.0	826.5	821.2	810.8	808.2
42.5°	800.4	787.3	776.9	774.3	766.5	758.7	753.4	745.6	743.0	740.4	735.2
45°	719.5	711.7	701.3	698.7	696.0	685.6	680.5	675.2	670.0	667.4	662.3
47.5°	646.6	638.8	630.9	628.4	623.1	620.4	612.7	610.0	602.2	599.6	597.0
50°	576.1	571.0	565.7	563.2	557.9	555.3	550.1	544.9	539.7	537.1	534.4
52.5°	513.6	508.4	503.2	500.5	498.0	492.7	487.5	482.3	479.7	477.0	474.5
55°	453.7	448.4	445.8	443.3	440.6	438.0	430.2	427.6	424.9	422.3	417.1
57.5°	398.9	393.7	388.5	388.5	385.9	383.2	378.0	372.8	372.8	367.5	362.4
60°	349.3	344.2	338.9	336.3	333.8	328.5	325.9	323.2	320.7	318.1	312.8
62.5°	297.2	294.6	289.4	289.4	284.2	281.5	279.0	276.4	273.7	268.5	266.0
65°	252.9	250.3	245.1	242.5	242.5	239.8	234.7	232.1	229.4	229.4	226.8
67.5°	211.2	208.6	203.3	200.8	200.8	198.1	195.5	195.5	192.9	190.4	192.9
70°	174.7	169.5	169.5	166.9	166.9	164.2	161.6	161.6	161.6	164.2	164.2
72.5°	138.1	135.6	133.0	133.0	133.0	133.0	130.3	130.3	133.0	135.6	135.6
75°	109.5	106.9	106.9	106.9	104.2	104.2	106.9	106.9	109.5	109.5	109.5
77.5°	80.9	80.9	80.9	80.9	80.9	80.9	83.4	83.4	86.0	86.0	86.0
80°	60.0	60.0	60.0	60.0	60.0	62.5	62.5	62.5	62.5	62.5	65.2
82.5°	41.7	41.7	41.7	41.7	41.7	41.7	41.7	44.3	44.3	44.3	44.3
85°	23.5	26.1	26.1	26.1	26.1	26.1	26.1	26.1	26.1	26.1	26.1
87.5°	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4
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: P584403

CATALOG NUMBER: HC835D010-HM82555830-81WWW

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1921.5	1921.5	1921.5	1921.5	1921.5	1921.5	1921.5	1921.5
2.5°	1882.3	1882.3	1882.3	1884.9	1879.7	1879.7	1879.7	1879.7
5°	1838.0	1835.3	1832.8	1835.3	1830.2	1830.2	1827.5	1827.5
7.5°	1783.2	1780.6	1778.1	1778.1	1772.8	1772.8	1770.2	1767.6
10°	1723.3	1718.1	1720.7	1715.4	1712.9	1710.3	1707.6	1705.0
12.5°	1658.2	1652.9	1650.2	1645.1	1639.8	1637.2	1639.8	1634.7
15°	1587.7	1579.9	1577.3	1572.0	1566.9	1564.2	1564.2	1561.6
17.5°	1509.5	1504.3	1501.7	1496.4	1493.9	1488.6	1486.0	1483.5
20°	1436.5	1423.5	1426.1	1420.8	1418.2	1407.8	1407.8	1410.4
22.5°	1355.7	1347.9	1342.6	1337.4	1334.8	1329.7	1329.7	1327.0
25°	1274.9	1267.0	1264.5	1259.2	1256.6	1251.4	1248.8	1248.8
27.5°	1196.7	1186.3	1186.3	1181.0	1175.8	1173.2	1170.6	1167.9
30°	1113.2	1105.4	1102.8	1102.8	1100.2	1100.2	1092.3	1095.0
32.5°	1035.0	1029.8	1027.2	1022.0	1022.0	1019.4	1019.4	1011.6
35°	956.8	948.9	951.6	946.4	943.8	941.1	943.8	941.1
37.5°	881.2	876.0	876.0	870.7	870.7	868.2	865.6	870.7
40°	805.5	803.0	800.4	797.7	800.4	797.7	792.6	795.1
42.5°	729.9	729.9	727.4	727.4	724.8	724.8	724.8	724.8
45°	662.3	659.6	659.6	657.0	657.0	657.0	657.0	654.3
47.5°	594.4	591.8	591.8	591.8	589.2	589.2	586.5	589.2
50°	529.3	529.3	526.6	526.6	529.3	526.6	524.0	524.0
52.5°	469.3	469.3	466.6	466.6	464.1	461.5	464.1	464.1
55°	414.5	411.9	409.4	409.4	406.7	404.1	404.1	406.7
57.5°	362.4	359.8	357.1	357.1	352.0	349.3	349.3	349.3
60°	312.8	307.6	307.6	305.0	305.0	302.4	302.4	302.4
62.5°	266.0	263.3	263.3	263.3	263.3	260.7	260.7	260.7
65°	226.8	226.8	226.8	229.4	229.4	232.1	232.1	232.1
67.5°	195.5	198.1	198.1	198.1	200.8	200.8	200.8	198.1
70°	166.9	166.9	166.9	169.5	169.5	169.5	169.5	169.5
72.5°	138.1	138.1	138.1	138.1	138.1	138.1	138.1	138.1
75°	109.5	112.1	112.1	112.1	109.5	112.1	112.1	109.5
77.5°	86.0	86.0	86.0	86.0	86.0	86.0	86.0	86.0
80°	65.2	65.2	65.2	65.2	65.2	65.2	65.2	65.2
82.5°	44.3	44.3	44.3	44.3	44.3	44.3	44.3	44.3
85°	26.1	26.1	26.1	26.1	26.1	26.1	26.1	26.1
87.5°	10.4	10.4	10.4	10.4	10.4	10.4	10.4	10.4
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)