

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: P584718

Luminaire Tested: **HC845D010-HM82555927-81RWWC**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584718
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: HC845D010-HM82555927-81RWWC
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3781.2 lumens
Efficiency: N/A
Efficacy: 85.9 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

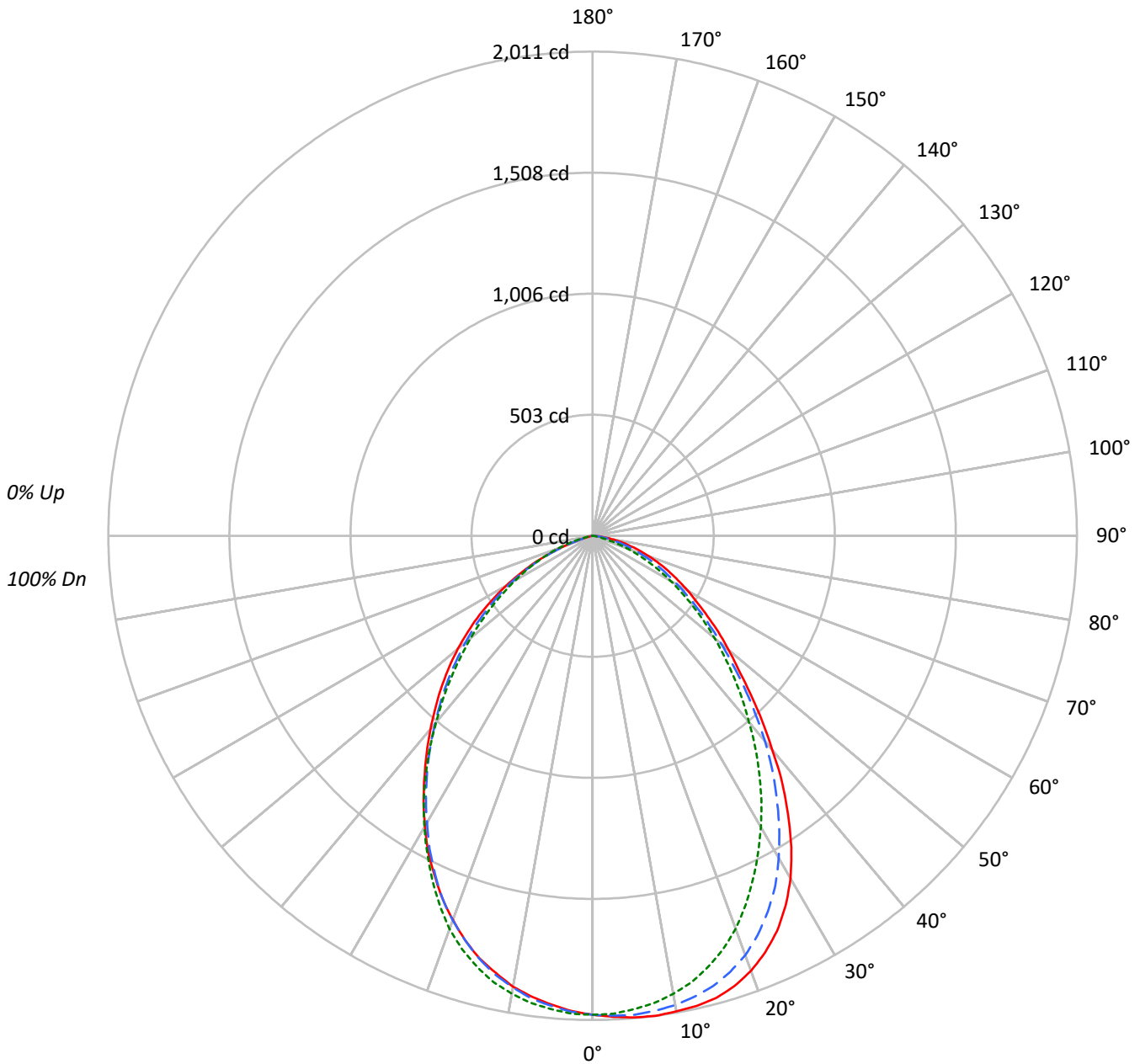
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	61349	61349	61349
5°	62159	61091	60512
10°	62796	60467	59549
15°	63427	59187	58003
20°	63107	57003	55697
25°	61638	53591	52870
30°	58545	49750	49561
35°	53293	45399	45794
40°	46727	40632	42130
45°	40308	36139	38686
50°	35298	31724	35039
55°	31273	27273	30843
60°	28178	22930	25557
65°	25385	18409	19576
70°	22269	13407	10774
75°	18991	6958	2848
80°	14615	1900	479
85°	9376	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.7	5.0
10°-20°	527.7	14.0
20°-30°	749.0	19.8
30°-40°	788.4	20.9
40°-50°	670.7	17.7
50°-60°	484.7	12.8
60°-70°	275.7	7.3
70°-80°	86.9	2.3
80°-90°	10.6	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°	1464.3	38.7
0°-40°	2252.7	59.6
0°-60°	3408.1	90.1
0°-90°	3781.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3781.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1990	1990	1990	1990	1990	
5°	2008	1998	1974	1960	1955	192
15°	1987	1936	1854	1819	1817	559
25°	1812	1721	1575	1549	1554	830
35°	1416	1334	1206	1198	1216	881
45°	924	890	829	850	887	718
55°	582	539	507	536	574	525
65°	348	300	252	250	268	345
75°	159	122	58	26	24	171
85°	26	16	0	0	0	34
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°	1989.5	1989.5	1989.5	1989.5	1989.5	1989.5	1989.5	1989.5	1989.5	1989.5	1989.5
2.5°	2000.1	2002.8	1997.5	1997.5	2002.8	1997.5	2000.1	2000.1	1997.5	1997.5	1994.8
5°	2008.1	2005.5	2005.5	2005.5	2008.1	2002.8	2000.1	2002.8	1997.5	1997.5	1997.5
7.5°	2010.8	2010.8	2008.1	2005.5	2005.5	2005.5	2002.8	2000.1	1997.5	1992.1	1989.5
10°	2005.5	2005.5	2008.1	2002.8	2002.8	1997.5	1997.5	1992.1	1992.1	1986.8	1978.9
12.5°	2000.1	1997.5	1997.5	1992.1	1992.1	1986.8	1986.8	1978.9	1976.2	1968.3	1960.3
15°	1986.8	1984.1	1978.9	1976.2	1973.6	1970.9	1965.6	1962.9	1954.9	1944.4	1936.4
17.5°	1960.3	1957.6	1954.9	1949.6	1944.4	1941.7	1939.0	1931.1	1920.4	1912.5	1899.2
20°	1923.1	1920.4	1920.4	1912.5	1909.8	1901.8	1899.2	1888.5	1880.6	1864.6	1854.0
22.5°	1872.6	1875.3	1870.0	1864.6	1859.3	1851.3	1846.1	1835.4	1822.1	1806.2	1792.9
25°	1811.6	1814.2	1808.9	1803.6	1795.6	1790.2	1785.0	1769.0	1755.7	1737.1	1721.3
27.5°	1734.5	1734.5	1734.5	1729.2	1715.9	1713.3	1707.9	1692.1	1673.4	1657.4	1641.5
30°	1644.2	1641.5	1641.5	1633.5	1628.2	1617.6	1609.7	1596.3	1583.1	1564.5	1545.9
32.5°	1535.2	1537.9	1529.9	1524.7	1516.7	1516.7	1506.0	1495.5	1479.5	1460.9	1442.3
35°	1415.7	1418.4	1413.1	1410.4	1397.2	1394.5	1391.9	1378.5	1368.0	1354.7	1333.5
37.5°	1293.6	1290.9	1288.3	1288.3	1280.3	1274.9	1269.7	1261.7	1245.7	1235.2	1224.5
40°	1160.8	1160.8	1160.8	1158.1	1155.4	1150.1	1147.4	1142.2	1131.6	1120.9	1112.9
42.5°	1041.3	1041.3	1038.6	1035.9	1030.6	1033.3	1027.9	1022.6	1012.1	1004.1	998.7
45°	924.3	924.3	924.3	927.0	921.7	913.8	913.8	908.4	903.1	897.8	889.8
47.5°	820.7	828.7	823.4	820.7	823.4	812.8	812.8	807.5	802.2	796.8	786.3
50°	735.8	735.8	735.8	730.4	727.8	727.8	719.9	714.5	711.9	706.5	695.9
52.5°	658.8	653.5	653.5	650.8	648.1	642.8	642.8	637.5	626.9	621.6	613.6
55°	581.7	581.7	579.0	576.4	573.7	571.1	568.4	560.5	555.2	547.2	539.2
57.5°	512.6	518.0	515.3	510.0	504.6	504.6	499.3	494.1	486.1	478.1	470.1
60°	456.9	454.2	454.2	451.6	446.2	443.6	440.9	433.0	425.0	417.0	409.0
62.5°	398.5	398.5	398.5	393.1	387.8	385.1	382.5	377.2	366.6	358.6	353.3
65°	347.9	345.3	342.6	339.9	337.4	332.1	329.4	324.1	316.1	308.1	300.2
67.5°	297.5	294.9	294.9	292.2	284.2	281.5	281.5	273.5	265.6	257.7	249.7
70°	247.0	247.0	247.0	241.8	239.1	236.4	233.8	228.4	220.4	212.5	204.6
72.5°	204.6	201.9	201.9	199.2	191.2	188.6	185.9	180.6	172.7	167.4	162.0
75°	159.4	159.4	156.7	154.0	151.4	148.7	146.0	140.8	132.8	124.8	122.2
77.5°	122.2	119.5	119.5	116.8	111.6	108.9	108.9	103.6	95.6	90.3	85.0
80°	82.3	85.0	82.3	79.6	77.1	74.4	71.7	69.1	63.7	58.4	53.1
82.5°	50.4	53.1	50.4	50.4	47.9	45.2	45.2	39.9	37.2	34.5	31.9
85°	26.5	26.5	26.5	26.5	23.9	23.9	23.9	21.2	18.7	16.0	16.0
87.5°	8.0	10.7	8.0	8.0	8.0	8.0	8.0	8.0	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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1989.5	1989.5	1989.5	1989.5	1989.5	1989.5	1989.5	1989.5	1989.5	1989.5	1989.5
2.5°	1997.5	1994.8	1992.1	1992.1	1992.1	1992.1	1992.1	1989.5	1986.8	1986.8	1986.8
5°	1992.1	1992.1	1992.1	1989.5	1986.8	1986.8	1981.5	1978.9	1976.2	1973.6	1970.9
7.5°	1986.8	1981.5	1978.9	1976.2	1973.6	1973.6	1968.3	1962.9	1962.9	1957.6	1952.3
10°	1970.9	1968.3	1962.9	1957.6	1954.9	1952.3	1946.9	1939.0	1936.4	1931.1	1925.7
12.5°	1952.3	1946.9	1941.7	1931.1	1928.4	1925.7	1915.2	1907.2	1901.8	1899.2	1885.9
15°	1928.4	1917.7	1909.8	1896.5	1893.8	1888.5	1880.6	1872.6	1862.0	1854.0	1848.8
17.5°	1885.9	1875.3	1862.0	1848.8	1843.4	1843.4	1830.1	1819.4	1806.2	1800.9	1790.2
20°	1835.4	1822.1	1811.6	1795.6	1787.7	1779.7	1771.7	1755.7	1745.1	1737.1	1723.8
22.5°	1777.0	1758.4	1745.1	1729.2	1715.9	1707.9	1694.6	1681.4	1668.1	1660.1	1649.5
25°	1702.6	1686.7	1665.4	1649.5	1641.5	1630.9	1615.0	1601.7	1588.4	1575.1	1569.8
27.5°	1620.3	1599.0	1580.4	1561.8	1553.9	1545.9	1527.4	1511.4	1500.7	1487.5	1482.2
30°	1529.9	1508.7	1487.5	1471.5	1463.6	1450.3	1439.6	1421.1	1407.8	1397.2	1383.9
32.5°	1426.4	1410.4	1391.9	1368.0	1362.7	1352.0	1336.0	1328.1	1312.1	1304.1	1293.6
35°	1314.8	1304.1	1285.6	1267.0	1259.0	1253.7	1240.4	1224.5	1213.9	1206.0	1200.6
37.5°	1208.5	1195.3	1176.6	1163.4	1158.1	1150.1	1134.2	1126.2	1115.6	1110.2	1099.7
40°	1094.4	1081.0	1067.8	1059.8	1051.8	1046.6	1035.9	1027.9	1017.3	1009.4	1006.7
42.5°	982.7	974.9	964.2	953.5	951.0	943.0	937.6	929.7	921.7	919.0	911.1
45°	881.9	873.9	863.2	852.7	850.0	844.7	842.0	834.0	828.7	828.7	828.7
47.5°	780.9	773.0	762.3	757.1	759.6	749.1	749.1	746.4	741.1	741.1	743.7
50°	690.7	680.0	677.3	672.0	666.7	661.3	664.0	656.1	656.1	661.3	658.8
52.5°	605.6	594.9	592.4	587.0	584.4	584.4	581.7	581.7	579.0	581.7	581.7
55°	528.6	520.6	515.3	510.0	507.3	507.3	507.3	504.6	502.0	507.3	510.0
57.5°	459.5	456.9	451.6	443.6	440.9	438.2	435.7	435.7	435.7	435.7	438.2
60°	398.5	393.1	387.8	379.8	379.8	377.2	374.5	371.8	371.8	371.8	371.8
62.5°	345.3	337.4	329.4	324.1	321.4	318.7	316.1	310.7	310.7	310.7	310.7
65°	292.2	284.2	278.9	273.5	268.3	268.3	263.0	260.3	255.0	252.3	247.0
67.5°	241.8	236.4	231.1	223.1	220.4	217.8	212.5	209.8	201.9	199.2	196.6
70°	196.6	188.6	183.2	177.9	175.4	170.0	164.7	159.4	154.0	148.7	143.5
72.5°	154.0	146.0	140.8	135.5	130.2	130.2	122.2	116.8	108.9	103.6	95.6
75°	114.3	106.3	100.9	93.0	90.3	87.6	79.6	74.4	66.4	58.4	53.1
77.5°	77.1	71.7	66.4	58.4	53.1	53.1	45.2	39.9	34.5	26.5	23.9
80°	47.9	42.5	37.2	31.9	31.9	26.5	23.9	18.7	13.3	10.7	8.0
82.5°	26.5	23.9	21.2	16.0	16.0	13.3	10.7	8.0	5.3	2.7	2.7
85°	13.3	10.7	8.0	8.0	5.3	5.3	5.3	2.7	2.7	0.0	0.0
87.5°	5.3	2.7	2.7	2.7	2.7	2.7	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1989.5	1989.5	1989.5	1989.5	1989.5	1989.5	1989.5	1989.5	1989.5	1989.5	1989.5
2.5°	1984.1	1984.1	1981.5	1981.5	1981.5	1978.9	1981.5	1978.9	1978.9	1978.9	1981.5
5°	1973.6	1968.3	1968.3	1965.6	1965.6	1962.9	1965.6	1962.9	1960.3	1957.6	1960.3
7.5°	1952.3	1946.9	1944.4	1941.7	1941.7	1941.7	1939.0	1936.4	1939.0	1931.1	1936.4
10°	1923.1	1920.4	1915.2	1912.5	1909.8	1912.5	1909.8	1904.5	1904.5	1904.5	1901.8
12.5°	1885.9	1880.6	1878.0	1875.3	1870.0	1870.0	1872.6	1867.3	1867.3	1862.0	1862.0
15°	1840.8	1835.4	1830.1	1830.1	1824.8	1824.8	1822.1	1822.1	1819.4	1816.9	1816.9
17.5°	1785.0	1777.0	1771.7	1774.3	1771.7	1769.0	1769.0	1763.7	1761.0	1763.7	1763.7
20°	1718.6	1713.3	1707.9	1710.6	1705.3	1702.6	1705.3	1697.3	1699.9	1699.9	1699.9
22.5°	1644.2	1641.5	1633.5	1633.5	1628.2	1625.5	1628.2	1628.2	1630.9	1628.2	1628.2
25°	1561.8	1556.6	1551.2	1551.2	1548.6	1545.9	1548.6	1551.2	1548.6	1551.2	1551.2
27.5°	1474.2	1466.2	1466.2	1460.9	1460.9	1463.6	1460.9	1463.6	1466.2	1466.2	1471.5
30°	1378.5	1375.9	1373.2	1370.7	1370.7	1373.2	1373.2	1373.2	1375.9	1381.2	1381.2
32.5°	1288.3	1282.9	1277.6	1277.6	1282.9	1280.3	1282.9	1282.9	1288.3	1288.3	1293.6
35°	1190.0	1190.0	1184.6	1187.3	1187.3	1187.3	1187.3	1192.6	1198.0	1200.6	1206.0
37.5°	1099.7	1091.7	1094.4	1094.4	1097.0	1094.4	1102.3	1102.3	1107.7	1107.7	1112.9
40°	1001.4	1001.4	1004.1	1001.4	1004.1	1004.1	1009.4	1014.6	1017.3	1022.6	1025.3
42.5°	908.4	913.8	908.4	911.1	913.8	916.3	919.0	921.7	932.3	937.6	945.6
45°	823.4	826.0	828.7	831.4	828.7	834.0	836.7	842.0	850.0	852.7	855.4
47.5°	741.1	743.7	746.4	749.1	749.1	754.4	757.1	762.3	767.6	770.3	773.0
50°	661.3	666.7	669.3	669.3	672.0	677.3	682.7	682.7	688.0	695.9	698.5
52.5°	589.7	589.7	594.9	597.6	600.3	600.3	608.3	610.9	613.6	618.9	624.2
55°	510.0	518.0	520.6	520.6	526.0	531.3	533.9	536.5	536.5	547.2	547.2
57.5°	440.9	443.6	448.9	448.9	448.9	456.9	456.9	462.2	464.9	467.4	472.8
60°	371.8	377.2	377.2	379.8	377.2	382.5	385.1	390.5	393.1	395.8	398.5
62.5°	308.1	308.1	310.7	310.7	310.7	310.7	316.1	316.1	321.4	324.1	326.7
65°	247.0	247.0	247.0	247.0	247.0	247.0	247.0	247.0	249.7	249.7	255.0
67.5°	191.2	188.6	183.2	185.9	183.2	183.2	180.6	180.6	183.2	183.2	188.6
70°	138.2	135.5	130.2	130.2	127.5	124.8	122.2	119.5	116.8	116.8	116.8
72.5°	90.3	85.0	77.1	74.4	74.4	69.1	63.7	61.1	61.1	61.1	61.1
75°	45.2	39.9	34.5	31.9	31.9	26.5	29.2	26.5	26.5	26.5	26.5
77.5°	18.7	13.3	10.7	10.7	10.7	8.0	8.0	8.0	8.0	8.0	8.0
80°	5.3	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
82.5°	2.7	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: P584718

CATALOG NUMBER: HC845D010-HM82555927-81RWWC

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1989.5	1989.5	1989.5	1989.5	1989.5	1989.5	1989.5	1989.5
2.5°	1978.9	1978.9	1973.6	1976.2	1976.2	1976.2	1976.2	1976.2
5°	1954.9	1957.6	1954.9	1957.6	1957.6	1954.9	1954.9	1954.9
7.5°	1931.1	1933.7	1931.1	1933.7	1933.7	1933.7	1931.1	1931.1
10°	1901.8	1901.8	1901.8	1901.8	1901.8	1899.2	1901.8	1901.8
12.5°	1862.0	1862.0	1862.0	1864.6	1864.6	1862.0	1862.0	1859.3
15°	1819.4	1814.2	1816.9	1819.4	1816.9	1816.9	1816.9	1816.9
17.5°	1761.0	1763.7	1761.0	1761.0	1761.0	1761.0	1763.7	1761.0
20°	1699.9	1699.9	1702.6	1699.9	1699.9	1699.9	1699.9	1697.3
22.5°	1630.9	1628.2	1628.2	1630.9	1630.9	1628.2	1630.9	1630.9
25°	1553.9	1556.6	1553.9	1553.9	1556.6	1556.6	1556.6	1553.9
27.5°	1471.5	1474.2	1476.8	1474.2	1474.2	1474.2	1476.8	1479.5
30°	1386.5	1391.9	1386.5	1386.5	1391.9	1389.2	1391.9	1391.9
32.5°	1296.2	1304.1	1298.9	1304.1	1304.1	1306.8	1304.1	1306.8
35°	1206.0	1213.9	1213.9	1213.9	1216.5	1219.2	1219.2	1216.5
37.5°	1120.9	1123.6	1123.6	1128.9	1131.6	1134.2	1134.2	1131.6
40°	1033.3	1038.6	1041.3	1041.3	1041.3	1046.6	1051.8	1046.6
42.5°	948.3	951.0	953.5	953.5	958.9	961.5	964.2	964.2
45°	865.9	871.2	873.9	876.6	879.2	884.6	881.9	887.1
47.5°	780.9	788.8	791.5	794.2	799.5	802.2	804.8	807.5
50°	703.9	709.2	709.2	714.5	722.5	722.5	727.8	730.4
52.5°	626.9	629.5	632.1	634.8	640.1	645.5	645.5	650.8
55°	552.5	555.2	555.2	557.8	560.5	571.1	573.7	573.7
57.5°	475.4	475.4	480.8	483.4	486.1	491.4	491.4	491.4
60°	401.0	403.7	403.7	406.4	409.0	414.4	417.0	414.4
62.5°	326.7	329.4	329.4	332.1	337.4	339.9	337.4	337.4
65°	257.7	260.3	260.3	263.0	268.3	268.3	265.6	268.3
67.5°	188.6	188.6	188.6	188.6	188.6	188.6	188.6	188.6
70°	119.5	116.8	114.3	116.8	116.8	116.8	114.3	119.5
72.5°	58.4	61.1	61.1	61.1	61.1	61.1	61.1	58.4
75°	26.5	26.5	23.9	23.9	23.9	26.5	26.5	23.9
77.5°	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
80°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
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)