

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: P584505

Luminaire Tested: **HC835D010-HM82555940-81WWW**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584505
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-HM82555940-81WWW
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3874.7 lumens
Efficiency: N/A
Efficacy: 115.0 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

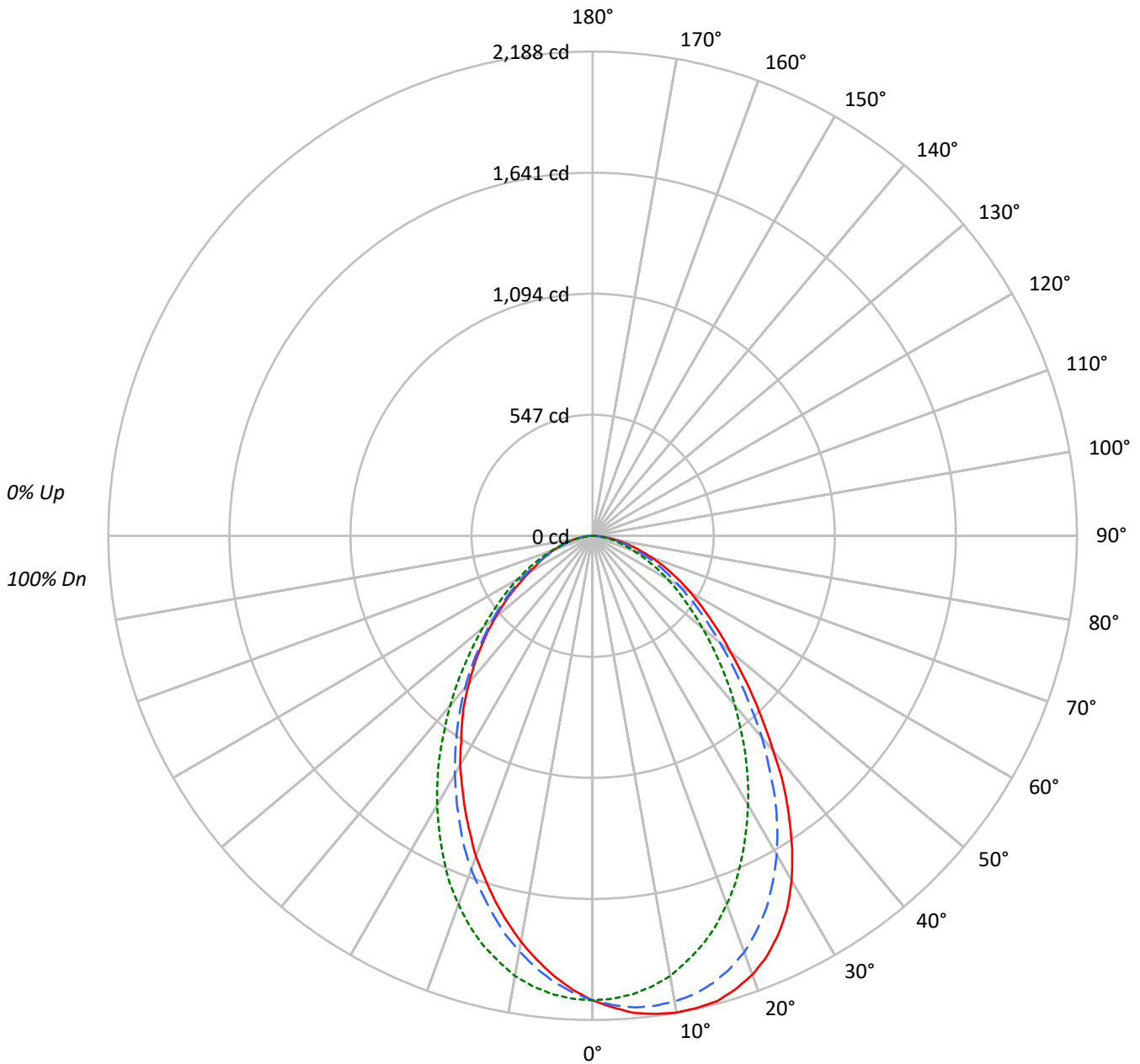
Input Watts (W): 33.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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	110	106	103	99	108	104	101	98	100	97	95	96	94	92	93	91	89	87					87			
2	102	95	89	84	99	93	88	83	90	85	81	86	83	79	83	80	78	76					76			
3	94	85	78	72	92	83	77	71	81	75	70	78	73	69	75	71	68	66					66			
4	87	76	69	63	85	75	68	62	73	67	62	71	65	61	68	64	60	58					58			
5	81	69	61	55	79	68	61	55	66	60	54	64	59	54	63	57	53	51					51			
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46					46			
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	41					41			
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38					38			
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34					34			
10	58	46	39	34	57	45	38	34	44	38	33	44	38	33	43	37	33	32					32			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	64741	64741	64741
5°	67016	64369	61812
10°	68504	63241	58334
15°	69480	61112	54472
20°	69270	58142	50572
25°	67558	54374	46426
30°	64003	50006	42600
35°	58232	45256	38713
40°	51143	40250	34977
45°	44599	35406	31181
50°	38810	31024	27469
55°	34612	27262	23886
60°	31447	23892	20377
65°	28267	20788	18497
70°	25163	17725	16698
75°	22065	14929	14261
80°	18717	12146	12644
85°	14117	9057	10084



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	196.6	5.1
10°-20°	541.8	14.0
20°-30°	752.1	19.4
30°-40°	777.6	20.1
40°-50°	651.1	16.8
50°-60°	472.7	12.2
60°-70°	298.3	7.7
70°-80°	147.7	3.8
80°-90°	36.7	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°	1490.6	38.5
0°-40°	2268.2	58.5
0°-60°	3391.9	87.5
0°-90°	3874.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3874.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2100	2100	2100	2100	2100	
5°	2165	2139	2080	2023	1997	207
15°	2176	2094	1914	1760	1706	613
25°	1986	1857	1598	1424	1364	910
35°	1547	1433	1202	1065	1028	963
45°	1023	949	812	732	715	791
55°	644	587	507	464	444	581
65°	387	339	285	251	254	386
75°	185	154	125	120	120	199
85°	40	31	26	28	28	48
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°	2099.5	2099.5	2099.5	2099.5	2099.5	2099.5	2099.5	2099.5	2099.5	2099.5	2099.5
2.5°	2133.6	2133.6	2136.5	2133.6	2133.6	2133.6	2130.8	2130.8	2128.0	2128.0	2122.3
5°	2165.0	2159.3	2165.0	2159.3	2159.3	2159.3	2156.4	2150.8	2147.9	2142.3	2139.4
7.5°	2179.3	2176.4	2176.4	2173.5	2173.5	2170.7	2167.9	2165.0	2153.6	2150.8	2142.3
10°	2187.8	2184.9	2184.9	2182.0	2176.4	2176.4	2170.7	2167.9	2153.6	2147.9	2136.5
12.5°	2184.9	2184.9	2184.9	2182.0	2173.5	2170.7	2165.0	2156.4	2145.0	2133.6	2122.3
15°	2176.4	2176.4	2170.7	2167.9	2159.3	2153.6	2150.8	2136.5	2125.1	2110.9	2093.7
17.5°	2147.9	2147.9	2145.0	2139.4	2130.8	2125.1	2119.4	2105.1	2093.7	2071.0	2053.9
20°	2110.9	2108.0	2105.1	2096.6	2088.1	2085.2	2076.7	2056.7	2042.5	2025.5	2002.6
22.5°	2056.7	2053.9	2051.1	2045.3	2031.1	2025.5	2019.7	2005.5	1979.8	1962.8	1934.3
25°	1985.6	1985.6	1979.8	1971.3	1957.1	1951.3	1942.8	1928.5	1905.8	1880.1	1857.4
27.5°	1902.9	1900.0	1891.5	1885.8	1874.4	1865.9	1851.6	1834.5	1811.7	1791.8	1763.3
30°	1797.5	1797.5	1791.8	1783.2	1769.1	1763.3	1752.0	1731.9	1709.2	1683.5	1663.7
32.5°	1677.9	1677.9	1669.3	1663.7	1655.0	1640.9	1638.0	1615.3	1595.3	1575.4	1552.5
35°	1546.9	1549.7	1544.0	1532.6	1518.3	1518.3	1512.6	1492.7	1469.9	1449.9	1432.9
37.5°	1415.8	1407.3	1404.4	1398.7	1390.2	1378.8	1373.0	1364.5	1344.6	1330.4	1304.7
40°	1270.5	1273.4	1267.7	1262.0	1259.1	1250.6	1247.7	1233.5	1219.2	1202.2	1190.7
42.5°	1139.4	1139.4	1139.4	1133.8	1128.0	1119.5	1116.7	1108.1	1091.0	1079.6	1062.5
45°	1022.7	1014.1	1014.1	1011.2	1008.5	1002.7	994.2	988.5	977.1	968.6	948.6
47.5°	908.7	911.6	908.7	905.9	897.3	894.5	891.7	880.3	868.9	860.3	846.0
50°	809.0	814.8	809.0	809.0	803.4	800.5	794.8	786.2	777.7	763.5	749.2
52.5°	726.5	726.5	723.6	720.7	712.2	706.5	703.6	700.8	686.6	675.2	663.7
55°	643.8	646.7	646.7	638.1	635.3	629.5	626.7	618.2	612.4	595.4	586.8
57.5°	572.6	569.8	572.6	566.9	561.1	555.5	552.6	547.0	538.4	527.0	515.6
60°	509.9	504.2	504.2	501.4	495.6	492.9	487.1	478.6	470.0	458.6	450.1
62.5°	447.2	444.3	441.6	438.7	433.0	430.2	427.3	418.7	410.2	401.7	393.1
65°	387.4	387.4	384.6	378.9	376.1	373.2	370.3	364.7	353.3	347.5	339.0
67.5°	333.3	330.4	330.4	324.8	319.0	316.2	316.2	310.5	302.0	293.4	287.8
70°	279.1	282.0	279.1	276.4	270.6	270.6	264.9	262.1	250.7	247.9	239.2
72.5°	230.7	230.7	227.9	227.9	222.2	219.4	219.4	213.6	208.0	202.2	196.6
75°	185.2	185.2	185.2	182.3	179.5	173.8	173.8	171.0	165.2	159.6	153.8
77.5°	145.3	142.4	142.4	139.6	136.7	133.9	133.9	131.1	125.3	122.4	116.8
80°	105.4	102.5	102.5	102.5	96.8	99.7	96.8	94.0	91.2	88.3	85.4
82.5°	68.4	71.2	71.2	68.4	65.5	65.5	65.5	62.7	62.7	59.8	57.0
85°	39.9	39.9	39.9	39.9	37.0	37.0	37.0	34.1	34.1	34.1	31.4
87.5°	17.1	17.1	17.1	17.1	17.1	17.1	14.3	14.3	14.3	14.3	14.3
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°	2099.5	2099.5	2099.5	2099.5	2099.5	2099.5	2099.5	2099.5	2099.5	2099.5	2099.5
2.5°	2122.3	2116.6	2113.8	2110.9	2110.9	2108.0	2105.1	2099.5	2099.5	2093.7	2091.0
5°	2133.6	2125.1	2119.4	2113.8	2110.9	2105.1	2099.5	2091.0	2088.1	2079.5	2071.0
7.5°	2136.5	2122.3	2116.6	2105.1	2099.5	2093.7	2082.4	2073.9	2062.5	2053.9	2042.5
10°	2125.1	2113.8	2099.5	2085.2	2082.4	2073.9	2056.7	2045.3	2031.1	2019.7	2002.6
12.5°	2108.0	2091.0	2076.7	2059.6	2051.1	2042.5	2025.5	2008.3	1988.4	1968.4	1951.3
15°	2079.5	2059.6	2039.7	2019.7	2008.3	1999.8	1979.8	1959.9	1939.9	1914.3	1897.3
17.5°	2036.8	2014.1	1994.1	1968.4	1957.1	1948.5	1922.9	1900.0	1874.4	1848.8	1831.7
20°	1982.7	1954.2	1931.4	1902.9	1894.4	1880.1	1854.5	1828.9	1800.4	1771.8	1752.0
22.5°	1911.5	1883.0	1857.4	1828.9	1814.6	1800.4	1774.7	1743.4	1714.9	1692.2	1672.2
25°	1828.9	1803.2	1771.8	1746.2	1729.2	1712.1	1683.5	1657.9	1632.3	1598.1	1578.1
27.5°	1737.7	1706.3	1683.5	1649.4	1632.3	1620.9	1589.6	1555.4	1532.6	1501.2	1478.5
30°	1635.2	1606.6	1581.0	1546.9	1529.7	1518.3	1489.8	1458.6	1435.7	1404.4	1381.7
32.5°	1526.9	1495.6	1464.2	1441.4	1421.5	1410.0	1378.8	1358.8	1330.4	1304.7	1279.1
35°	1410.0	1378.8	1356.0	1324.6	1313.2	1301.9	1276.2	1250.6	1225.0	1202.2	1182.2
37.5°	1284.7	1262.0	1236.3	1213.6	1204.9	1193.6	1162.3	1139.4	1119.5	1096.8	1079.6
40°	1162.3	1142.3	1125.3	1102.4	1088.1	1079.6	1056.9	1036.9	1014.1	999.9	982.8
42.5°	1051.1	1028.4	1011.2	994.2	980.0	971.5	951.5	937.2	920.2	905.9	885.9
45°	934.3	922.9	903.1	888.8	880.3	868.9	854.7	837.5	823.3	811.9	797.6
47.5°	831.8	820.4	806.1	789.1	783.4	774.9	760.6	749.2	737.8	726.5	712.2
50°	737.8	723.6	712.2	700.8	695.1	686.6	672.3	666.6	658.1	646.7	638.1
52.5°	652.3	640.9	629.5	615.3	612.4	606.8	598.3	586.8	578.3	572.6	566.9
55°	575.4	564.0	555.5	544.1	541.3	535.5	524.1	518.5	512.7	507.1	501.4
57.5°	507.1	495.6	484.2	478.6	472.9	467.2	464.3	455.8	450.1	447.2	441.6
60°	444.3	433.0	424.5	415.9	413.1	410.2	404.6	398.8	393.1	387.4	384.6
62.5°	384.6	373.2	367.4	361.8	356.0	356.0	350.4	344.7	339.0	336.2	330.4
65°	330.4	324.8	316.2	307.6	304.8	304.8	296.3	293.4	290.5	284.9	279.1
67.5°	279.1	273.5	264.9	262.1	259.2	256.4	253.5	247.9	242.1	239.2	233.6
70°	233.6	227.9	222.2	219.4	216.5	213.6	208.0	205.1	199.5	196.6	193.7
72.5°	188.0	185.2	179.5	176.6	173.8	171.0	168.1	165.2	159.6	156.7	153.8
75°	150.9	148.1	142.4	139.6	136.7	136.7	133.9	128.2	125.3	125.3	122.4
77.5°	113.9	111.1	108.3	105.4	102.5	102.5	99.7	96.8	94.0	94.0	91.2
80°	82.7	79.8	76.9	76.9	76.9	74.0	71.2	71.2	68.4	68.4	65.5
82.5°	54.1	54.1	51.3	51.3	51.3	48.4	48.4	45.5	45.5	45.5	45.5
85°	31.4	31.4	31.4	28.5	28.5	28.5	28.5	28.5	28.5	25.6	28.5
87.5°	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	11.4	11.4	11.4
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°	2099.5	2099.5	2099.5	2099.5	2099.5	2099.5	2099.5	2099.5	2099.5	2099.5	2099.5
2.5°	2088.1	2085.2	2079.5	2079.5	2073.9	2073.9	2071.0	2068.1	2065.4	2062.5	2059.6
5°	2068.1	2056.7	2051.1	2048.2	2042.5	2039.7	2031.1	2025.5	2022.6	2016.8	2011.2
7.5°	2031.1	2019.7	2008.3	2005.5	2002.6	1991.2	1982.7	1974.2	1968.4	1962.8	1957.1
10°	1988.4	1976.9	1962.8	1957.1	1951.3	1937.2	1925.7	1917.2	1905.8	1894.4	1891.5
12.5°	1937.2	1920.0	1902.9	1897.3	1888.6	1874.4	1863.0	1848.8	1840.2	1826.0	1823.1
15°	1877.3	1857.4	1843.1	1828.9	1823.1	1808.9	1789.0	1777.6	1760.5	1754.8	1740.6
17.5°	1806.1	1786.1	1766.2	1760.5	1752.0	1731.9	1712.1	1697.8	1680.7	1672.2	1663.7
20°	1731.9	1706.3	1686.4	1680.7	1669.3	1652.3	1632.3	1618.0	1603.8	1586.8	1578.1
22.5°	1646.5	1618.0	1601.0	1586.8	1583.9	1564.0	1541.1	1529.7	1518.3	1504.1	1492.7
25°	1552.5	1526.9	1507.0	1495.6	1489.8	1472.8	1455.7	1441.4	1424.3	1415.8	1401.5
27.5°	1455.7	1438.6	1412.9	1401.5	1393.0	1378.8	1358.8	1350.3	1333.1	1321.8	1313.2
30°	1361.6	1336.0	1321.8	1307.5	1299.0	1284.7	1267.7	1259.1	1244.8	1233.5	1225.0
32.5°	1259.1	1242.1	1222.1	1216.4	1204.9	1190.7	1179.3	1165.1	1153.7	1142.3	1139.4
35°	1165.1	1142.3	1122.4	1116.7	1108.1	1093.9	1088.1	1079.6	1065.4	1062.5	1051.1
37.5°	1062.5	1051.1	1028.4	1019.9	1017.0	1005.6	994.2	988.5	980.0	971.5	968.6
40°	965.7	951.5	940.1	931.6	925.8	917.3	905.9	903.1	897.3	885.9	883.0
42.5°	874.5	860.3	848.9	846.0	837.5	829.0	823.3	814.8	811.9	809.0	803.4
45°	786.2	777.7	766.2	763.5	760.6	749.2	743.5	737.8	732.1	729.2	723.6
47.5°	706.5	698.0	689.3	686.6	680.8	677.9	669.4	666.6	658.1	655.2	652.3
50°	629.5	623.9	618.2	615.3	609.7	606.8	601.0	595.4	589.7	586.8	584.0
52.5°	561.1	555.5	549.8	547.0	544.1	538.4	532.8	527.0	524.1	521.4	518.5
55°	495.6	490.0	487.1	484.2	481.5	478.6	470.0	467.2	464.3	461.5	455.8
57.5°	435.8	430.2	424.5	424.5	421.6	418.7	413.1	407.3	407.3	401.7	395.9
60°	381.7	376.1	370.3	367.4	364.7	358.9	356.0	353.3	350.4	347.5	341.8
62.5°	324.8	321.9	316.2	316.2	310.5	307.6	304.8	302.0	299.1	293.4	290.5
65°	276.4	273.5	267.8	264.9	264.9	262.1	256.4	253.5	250.7	250.7	247.9
67.5°	230.7	227.9	222.2	219.4	219.4	216.5	213.6	213.6	210.8	208.0	210.8
70°	190.8	185.2	185.2	182.3	182.3	179.5	176.6	176.6	176.6	179.5	179.5
72.5°	150.9	148.1	145.3	145.3	145.3	145.3	142.4	142.4	145.3	148.1	148.1
75°	119.7	116.8	116.8	116.8	113.9	113.9	116.8	116.8	119.7	119.7	119.7
77.5°	88.3	88.3	88.3	88.3	88.3	88.3	91.2	91.2	94.0	94.0	94.0
80°	65.5	65.5	65.5	65.5	65.5	68.4	68.4	68.4	68.4	68.4	71.2
82.5°	45.5	45.5	45.5	45.5	45.5	45.5	45.5	48.4	48.4	48.4	48.4
85°	25.6	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5
87.5°	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4
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: P584505

CATALOG NUMBER: HC835D010-HM82555940-81WWW

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2099.5	2099.5	2099.5	2099.5	2099.5	2099.5	2099.5	2099.5
2.5°	2056.7	2056.7	2056.7	2059.6	2053.9	2053.9	2053.9	2053.9
5°	2008.3	2005.5	2002.6	2005.5	1999.8	1999.8	1996.9	1996.9
7.5°	1948.5	1945.7	1942.8	1942.8	1937.2	1937.2	1934.3	1931.4
10°	1883.0	1877.3	1880.1	1874.4	1871.6	1868.8	1865.9	1863.0
12.5°	1811.7	1806.1	1803.2	1797.5	1791.8	1789.0	1791.8	1786.1
15°	1734.8	1726.3	1723.4	1717.8	1712.1	1709.2	1709.2	1706.3
17.5°	1649.4	1643.7	1640.9	1635.2	1632.3	1626.6	1623.8	1620.9
20°	1569.6	1555.4	1558.2	1552.5	1549.7	1538.2	1538.2	1541.1
22.5°	1481.3	1472.8	1467.1	1461.3	1458.6	1452.8	1452.8	1449.9
25°	1393.0	1384.4	1381.7	1375.9	1373.0	1367.4	1364.5	1364.5
27.5°	1307.5	1296.1	1296.1	1290.5	1284.7	1281.9	1279.1	1276.2
30°	1216.4	1207.8	1204.9	1204.9	1202.2	1202.2	1193.6	1196.4
32.5°	1130.9	1125.3	1122.4	1116.7	1116.7	1113.8	1113.8	1105.3
35°	1045.5	1036.9	1039.7	1034.1	1031.2	1028.4	1031.2	1028.4
37.5°	962.8	957.2	957.2	951.5	951.5	948.6	945.8	951.5
40°	880.3	877.4	874.5	871.7	874.5	871.7	866.0	868.9
42.5°	797.6	797.6	794.8	794.8	791.9	791.9	791.9	791.9
45°	723.6	720.7	720.7	717.8	717.8	717.8	717.8	715.0
47.5°	649.6	646.7	646.7	646.7	643.8	643.8	640.9	643.8
50°	578.3	578.3	575.4	575.4	578.3	575.4	572.6	572.6
52.5°	512.7	512.7	509.9	509.9	507.1	504.2	507.1	507.1
55°	453.0	450.1	447.2	447.2	444.3	441.6	441.6	444.3
57.5°	395.9	393.1	390.3	390.3	384.6	381.7	381.7	381.7
60°	341.8	336.2	336.2	333.3	333.3	330.4	330.4	330.4
62.5°	290.5	287.8	287.8	287.8	287.8	284.9	284.9	284.9
65°	247.9	247.9	247.9	250.7	250.7	253.5	253.5	253.5
67.5°	213.6	216.5	216.5	216.5	219.4	219.4	219.4	216.5
70°	182.3	182.3	182.3	185.2	185.2	185.2	185.2	185.2
72.5°	150.9	150.9	150.9	150.9	150.9	150.9	150.9	150.9
75°	119.7	122.4	122.4	122.4	119.7	122.4	122.4	119.7
77.5°	94.0	94.0	94.0	94.0	94.0	94.0	94.0	94.0
80°	71.2	71.2	71.2	71.2	71.2	71.2	71.2	71.2
82.5°	48.4	48.4	48.4	48.4	48.4	48.4	48.4	48.4
85°	28.5	28.5	28.5	28.5	28.5	28.5	28.5	28.5
87.5°	11.4	11.4	11.4	11.4	11.4	11.4	11.4	11.4
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)