

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: P584761

Luminaire Tested: **HC845D010-HM82555935-81WWWB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584761
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-18)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC845D010-HM82555935-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4501.5 lumens
Efficiency: N/A
Efficacy: 102.3 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.09 / 1.18
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

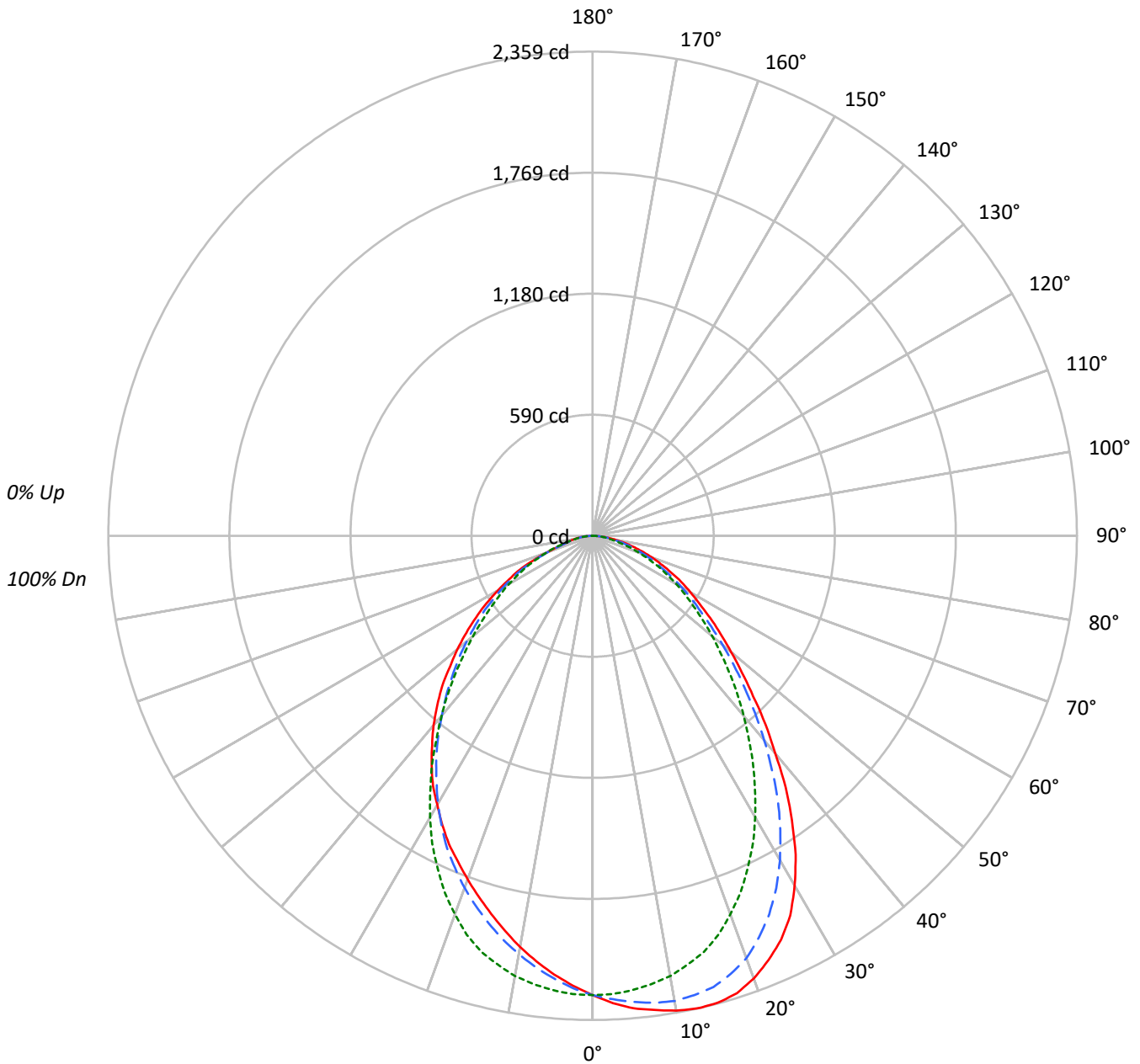
Input Watts (W): 44
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	92	91	89	87								
2	102	94	88	83	99	93	87	82	89	85	81	86	82	79	83	80	77	75								
3	94	84	77	71	91	83	76	71	80	74	69	77	72	68	75	71	67	65								
4	87	76	68	62	84	75	67	61	72	66	61	70	64	60	68	63	59	57								
5	80	69	60	54	78	67	60	54	65	59	54	64	58	53	62	57	52	50								
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45								
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40								
8	65	52	45	39	64	52	44	39	51	44	39	49	43	39	48	43	38	37								
9	61	48	41	36	60	48	41	36	47	40	35	46	40	35	45	39	35	33								
10	57	45	38	33	56	44	37	33	44	37	32	43	37	32	42	36	32	30								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	69015	69015	69015
5°	71544	68786	66424
10°	73564	68188	63711
15°	75204	66986	60895
20°	75321	64367	58424
25°	73877	60791	56358
30°	70070	56373	53884
35°	63668	51339	51460
40°	55671	46071	48502
45°	48249	41036	45201
50°	42245	36455	41180
55°	37606	32300	37257
60°	33920	29017	32742
65°	30623	25516	28537
70°	27517	21503	21214
75°	24245	17049	15906
80°	20333	14118	15254
85°	15744	12383	13480



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	211.1	4.7
10°-20°	594.7	13.2
20°-30°	849.9	18.9
30°-40°	903.1	20.1
40°-50°	777.5	17.3
50°-60°	581.3	12.9
60°-70°	370.8	8.2
70°-80°	168.7	3.7
80°-90°	44.3	1.0
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°	1655.7	36.8
0°-40°	2558.8	56.8
0°-60°	3917.6	87.0
0°-90°	4501.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4501.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2238	2238	2238	2238	2238	
5°	2311	2280	2222	2165	2146	222
15°	2356	2276	2098	1955	1908	664
25°	2171	2035	1787	1679	1656	994
35°	1691	1574	1364	1329	1367	1053
45°	1106	1046	941	966	1036	860
55°	700	642	601	652	693	629
65°	420	372	350	366	391	419
75°	204	175	143	130	134	216
85°	44	38	35	38	38	54
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°	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1
2.5°	2279.5	2273.2	2276.3	2273.2	2276.3	2276.3	2269.9	2269.9	2269.9	2269.9	2260.4
5°	2311.3	2308.1	2308.1	2304.9	2301.7	2304.9	2301.7	2298.5	2292.2	2289.0	2279.5
7.5°	2330.3	2330.3	2330.3	2330.3	2327.1	2323.9	2320.8	2314.4	2308.1	2301.7	2295.3
10°	2349.4	2352.6	2349.4	2346.2	2343.1	2336.7	2333.6	2327.1	2317.6	2308.1	2301.7
12.5°	2358.9	2358.9	2355.7	2355.7	2349.4	2346.2	2336.7	2327.1	2317.6	2308.1	2292.2
15°	2355.7	2355.7	2352.6	2349.4	2339.9	2336.7	2330.3	2320.8	2304.9	2292.2	2276.3
17.5°	2336.7	2333.6	2327.1	2327.1	2314.4	2311.3	2304.9	2292.2	2276.3	2257.2	2238.1
20°	2295.3	2295.3	2292.2	2289.0	2276.3	2266.7	2260.4	2244.5	2231.7	2209.5	2190.5
22.5°	2238.1	2244.5	2238.1	2231.7	2215.9	2212.7	2203.1	2184.1	2165.0	2139.6	2117.4
25°	2171.3	2168.2	2165.0	2158.7	2145.9	2139.6	2126.9	2107.8	2088.8	2060.1	2034.7
27.5°	2085.5	2072.8	2072.8	2060.1	2050.5	2041.0	2034.7	2015.6	1990.1	1967.9	1936.2
30°	1967.9	1971.1	1955.2	1952.0	1936.2	1929.7	1917.0	1897.9	1875.7	1850.3	1824.8
32.5°	1840.8	1831.2	1831.2	1818.5	1805.7	1796.2	1793.0	1770.8	1751.8	1726.3	1700.8
35°	1691.3	1691.3	1681.7	1678.6	1665.9	1659.6	1649.9	1637.3	1615.0	1592.8	1573.7
37.5°	1545.1	1538.7	1535.6	1529.1	1519.6	1510.1	1510.1	1487.8	1484.7	1459.2	1433.8
40°	1383.0	1389.3	1383.0	1373.3	1370.2	1363.8	1360.7	1348.0	1338.4	1316.2	1300.3
42.5°	1246.2	1239.9	1239.9	1236.7	1224.0	1224.0	1217.6	1211.2	1195.4	1189.0	1170.0
45°	1106.4	1112.7	1103.2	1106.4	1093.6	1093.6	1093.6	1080.9	1068.3	1058.6	1046.0
47.5°	985.6	988.7	988.7	979.2	976.1	976.1	969.6	963.3	953.8	941.0	931.5
50°	880.6	883.9	877.4	874.2	867.9	864.7	864.7	852.1	845.6	832.9	826.6
52.5°	785.2	785.2	782.0	782.0	772.5	772.5	766.2	756.6	750.3	743.9	728.1
55°	699.5	699.5	696.3	693.0	693.0	683.5	680.3	670.8	664.5	651.7	642.2
57.5°	616.8	619.9	616.8	613.6	610.4	607.3	600.8	591.3	585.0	575.5	569.0
60°	550.0	550.0	546.9	543.7	537.2	534.1	530.9	524.6	515.1	508.6	499.1
62.5°	486.4	483.3	480.1	476.8	470.5	470.5	464.2	457.8	448.3	441.9	435.5
65°	419.7	419.7	416.4	416.4	413.2	406.9	403.7	400.6	387.9	384.6	372.0
67.5°	359.3	362.5	356.1	356.1	349.7	349.7	346.5	337.0	333.8	327.5	321.1
70°	305.2	305.2	305.2	302.0	295.7	292.4	289.3	282.9	279.8	273.4	267.1
72.5°	251.1	251.1	248.0	248.0	244.8	241.6	238.5	232.1	232.1	225.7	219.4
75°	203.5	203.5	200.2	197.1	193.9	193.9	190.7	187.6	181.2	178.1	174.9
77.5°	155.8	155.8	155.8	152.6	149.4	149.4	149.4	143.1	136.7	136.7	133.5
80°	114.5	114.5	111.3	111.3	108.0	108.0	108.0	104.9	101.7	98.5	95.4
82.5°	76.2	76.2	76.2	76.2	73.1	73.1	73.1	69.9	66.7	66.7	66.7
85°	44.5	44.5	44.5	44.5	41.3	41.3	41.3	41.3	41.3	38.1	38.1
87.5°	19.1	16.0	19.1	16.0	19.1	16.0	19.1	16.0	16.0	16.0	16.0
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1
2.5°	2263.5	2260.4	2257.2	2254.0	2254.0	2250.9	2244.5	2241.4	2238.1	2234.9	2234.9
5°	2276.3	2273.2	2266.7	2260.4	2257.2	2250.9	2244.5	2238.1	2231.7	2222.2	2219.1
7.5°	2285.8	2276.3	2269.9	2257.2	2254.0	2247.7	2238.1	2228.6	2215.9	2203.1	2193.6
10°	2285.8	2273.2	2263.5	2247.7	2241.4	2234.9	2222.2	2206.3	2190.5	2177.7	2161.8
12.5°	2279.5	2263.5	2247.7	2231.7	2222.2	2212.7	2193.6	2177.7	2158.7	2139.6	2126.9
15°	2257.2	2238.1	2219.1	2200.0	2190.5	2177.7	2158.7	2136.4	2117.4	2098.3	2076.0
17.5°	2215.9	2196.8	2174.5	2152.3	2139.6	2130.1	2101.4	2085.5	2057.0	2037.9	2018.7
20°	2161.8	2139.6	2110.9	2088.8	2072.8	2063.3	2041.0	2012.4	1990.1	1961.5	1942.5
22.5°	2091.9	2063.3	2034.7	2012.4	1996.6	1983.8	1955.2	1926.5	1907.5	1882.1	1859.8
25°	2009.2	1980.6	1952.0	1920.2	1904.4	1891.6	1866.1	1840.8	1815.3	1786.7	1767.6
27.5°	1910.7	1878.9	1853.5	1824.8	1809.0	1789.9	1761.3	1735.8	1710.4	1691.3	1665.9
30°	1802.5	1767.6	1742.1	1713.5	1697.7	1681.7	1653.1	1627.8	1605.5	1583.2	1570.5
32.5°	1672.2	1646.8	1621.3	1592.8	1580.0	1570.5	1541.9	1516.5	1491.0	1472.0	1462.4
35°	1548.2	1519.6	1497.3	1472.0	1456.0	1446.5	1421.1	1398.8	1386.1	1363.8	1351.2
37.5°	1417.9	1395.6	1370.2	1344.8	1335.2	1325.7	1306.6	1284.4	1265.3	1249.4	1243.0
40°	1281.2	1262.1	1239.9	1224.0	1214.4	1204.9	1189.0	1173.1	1160.4	1144.5	1138.2
42.5°	1150.8	1138.2	1119.0	1100.0	1090.4	1087.3	1068.3	1055.5	1049.1	1042.8	1036.5
45°	1033.2	1014.2	1001.4	988.7	979.2	972.8	963.3	953.8	947.4	941.0	934.6
47.5°	918.8	902.9	890.2	880.6	871.1	867.9	861.6	852.1	845.6	845.6	845.6
50°	813.8	801.2	788.5	782.0	778.9	772.5	766.2	763.0	759.9	759.9	759.9
52.5°	721.6	709.0	699.5	693.0	693.0	686.7	680.3	677.2	677.2	677.2	677.2
55°	635.9	626.3	619.9	613.6	607.3	604.1	604.1	604.1	600.8	600.8	604.1
57.5°	559.5	553.2	543.7	537.2	534.1	534.1	530.9	527.7	530.9	534.1	537.2
60°	489.6	483.3	480.1	470.5	470.5	470.5	467.3	467.3	467.3	470.5	473.7
62.5°	426.0	422.9	416.4	413.2	410.1	410.1	406.9	406.9	406.9	406.9	410.1
65°	368.8	362.5	356.1	356.1	356.1	352.8	352.8	346.5	349.7	349.7	346.5
67.5°	314.7	308.4	305.2	302.0	298.9	298.9	295.7	292.4	289.3	289.3	289.3
70°	263.9	257.5	257.5	251.1	251.1	248.0	244.8	244.8	241.6	238.5	235.3
72.5°	213.0	209.8	206.7	203.5	203.5	203.5	200.2	197.1	193.9	190.7	184.4
75°	168.4	168.4	162.1	158.9	158.9	155.8	152.6	149.4	146.3	143.1	139.9
77.5°	130.3	127.2	120.8	117.7	117.7	117.7	114.5	111.3	108.0	104.9	101.7
80°	95.4	92.2	89.0	85.9	85.9	85.9	82.7	82.7	79.5	79.5	79.5
82.5°	63.6	63.6	60.4	60.4	60.4	60.4	57.2	57.2	57.2	57.2	57.2
85°	38.1	38.1	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0
87.5°	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
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°	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1
2.5°	2228.6	2228.6	2222.2	2219.1	2215.9	2219.1	2212.7	2209.5	2206.3	2206.3	2203.1
5°	2209.5	2206.3	2193.6	2190.5	2187.3	2184.1	2177.7	2171.3	2165.0	2161.8	2158.7
7.5°	2184.1	2174.5	2161.8	2158.7	2155.5	2145.9	2136.4	2130.1	2120.5	2117.4	2110.9
10°	2149.2	2136.4	2126.9	2117.4	2110.9	2101.4	2091.9	2082.3	2069.6	2066.5	2057.0
12.5°	2107.8	2091.9	2072.8	2069.6	2060.1	2047.4	2034.7	2025.2	2015.6	2009.2	1999.7
15°	2057.0	2041.0	2021.9	2012.4	2002.9	1993.4	1977.4	1964.8	1955.2	1945.7	1936.2
17.5°	1996.6	1977.4	1961.5	1952.0	1945.7	1929.7	1917.0	1901.2	1891.6	1882.1	1872.6
20°	1923.4	1907.5	1885.2	1875.7	1872.6	1859.8	1844.0	1837.5	1824.8	1815.3	1809.0
22.5°	1840.8	1824.8	1805.7	1799.4	1786.7	1780.4	1764.4	1758.1	1751.8	1742.1	1739.0
25°	1748.6	1732.6	1716.8	1713.5	1704.0	1697.7	1688.2	1678.6	1678.6	1669.1	1669.1
27.5°	1653.1	1637.3	1624.6	1618.2	1615.0	1608.7	1599.2	1596.0	1592.8	1589.5	1589.5
30°	1551.4	1532.4	1526.0	1522.8	1519.6	1513.3	1510.1	1503.8	1507.0	1510.1	1507.0
32.5°	1443.4	1436.9	1424.3	1417.9	1421.1	1417.9	1411.6	1417.9	1414.8	1421.1	1424.3
35°	1338.4	1332.1	1325.7	1325.7	1319.4	1319.4	1319.4	1322.6	1328.9	1332.1	1338.4
37.5°	1236.7	1227.2	1224.0	1220.9	1224.0	1224.0	1224.0	1230.4	1236.7	1243.0	1252.6
40°	1128.7	1122.2	1122.2	1122.2	1122.2	1131.8	1128.7	1135.0	1141.3	1150.8	1160.4
42.5°	1026.8	1026.8	1030.0	1030.0	1030.0	1030.0	1036.5	1046.0	1055.5	1065.0	1074.6
45°	931.5	931.5	931.5	937.8	937.8	941.0	953.8	960.1	966.4	976.1	985.6
47.5°	842.4	842.4	845.6	848.8	852.1	858.4	864.7	874.2	883.9	890.2	899.7
50°	759.9	763.0	769.4	775.7	775.7	778.9	788.5	794.8	801.2	810.7	813.8
52.5°	680.3	686.7	693.0	696.3	699.5	705.8	709.0	718.5	721.6	731.2	734.4
55°	607.3	610.4	619.9	623.1	623.1	629.4	635.9	642.2	651.7	651.7	658.1
57.5°	540.4	543.7	550.0	553.2	550.0	559.5	562.7	569.0	572.3	578.6	581.8
60°	473.7	480.1	483.3	483.3	486.4	489.6	495.9	495.9	502.3	508.6	508.6
62.5°	410.1	413.2	416.4	419.7	422.9	419.7	429.2	429.2	435.5	438.7	445.0
65°	349.7	352.8	352.8	356.1	356.1	359.3	359.3	362.5	365.6	372.0	375.1
67.5°	289.3	289.3	289.3	292.4	289.3	292.4	292.4	295.7	295.7	302.0	305.2
70°	235.3	232.1	228.9	228.9	228.9	228.9	225.7	228.9	228.9	232.1	232.1
72.5°	181.2	178.1	174.9	171.7	171.7	168.4	165.3	168.4	168.4	171.7	171.7
75°	136.7	130.3	130.3	130.3	127.2	127.2	127.2	130.3	130.3	130.3	133.5
77.5°	101.7	101.7	98.5	98.5	98.5	101.7	101.7	104.9	104.9	104.9	104.9
80°	76.2	79.5	79.5	79.5	79.5	82.7	82.7	82.7	82.7	85.9	85.9
82.5°	57.2	57.2	57.2	57.2	60.4	60.4	60.4	60.4	60.4	60.4	60.4
85°	35.0	38.1	38.1	35.0	38.1	38.1	38.1	38.1	38.1	38.1	38.1
87.5°	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
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: P584761

CATALOG NUMBER: HC845D010-HM82555935-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1	2238.1
2.5°	2200.0	2200.0	2200.0	2200.0	2196.8	2196.8	2196.8	2193.6
5°	2152.3	2152.3	2152.3	2145.9	2149.2	2149.2	2142.7	2145.9
7.5°	2104.6	2101.4	2098.3	2098.3	2095.1	2091.9	2088.8	2091.9
10°	2050.5	2041.0	2041.0	2037.9	2037.9	2031.5	2031.5	2034.7
12.5°	1990.1	1983.8	1983.8	1980.6	1977.4	1974.3	1971.1	1971.1
15°	1929.7	1923.4	1920.2	1917.0	1913.9	1907.5	1910.7	1907.5
17.5°	1869.3	1859.8	1859.8	1856.6	1853.5	1847.1	1847.1	1844.0
20°	1799.4	1796.2	1789.9	1793.0	1789.9	1783.5	1780.4	1780.4
22.5°	1729.5	1729.5	1726.3	1726.3	1723.1	1720.0	1716.8	1716.8
25°	1662.7	1659.6	1662.7	1662.7	1653.1	1653.1	1653.1	1656.4
27.5°	1586.4	1589.5	1586.4	1586.4	1586.4	1586.4	1589.5	1586.4
30°	1510.1	1510.1	1510.1	1513.3	1519.6	1516.5	1516.5	1513.3
32.5°	1427.4	1430.6	1430.6	1433.8	1436.9	1443.4	1443.4	1446.5
35°	1344.8	1351.2	1354.3	1351.2	1360.7	1360.7	1367.0	1367.0
37.5°	1259.0	1262.1	1268.5	1271.6	1278.0	1281.2	1284.4	1284.4
40°	1166.8	1179.5	1182.6	1185.8	1195.4	1195.4	1198.6	1204.9
42.5°	1080.9	1093.6	1096.8	1100.0	1106.4	1115.9	1112.7	1119.0
45°	998.2	1007.8	1011.0	1014.2	1023.7	1026.8	1026.8	1036.5
47.5°	909.2	915.6	918.8	925.1	931.5	937.8	944.3	941.0
50°	820.3	829.8	836.1	839.3	848.8	852.1	855.2	858.4
52.5°	740.7	747.1	750.3	753.4	763.0	766.2	769.4	775.7
55°	664.5	667.7	674.0	670.8	680.3	683.5	686.7	693.0
57.5°	588.1	591.3	594.5	594.5	600.8	607.3	610.4	613.6
60°	515.1	521.4	524.6	524.6	524.6	530.9	530.9	530.9
62.5°	448.3	448.3	451.5	451.5	457.8	457.8	457.8	457.8
65°	378.3	381.5	384.6	384.6	391.1	387.9	394.2	391.1
67.5°	305.2	305.2	311.5	311.5	308.4	311.5	311.5	311.5
70°	232.1	232.1	235.3	235.3	235.3	235.3	235.3	235.3
72.5°	171.7	171.7	171.7	174.9	171.7	171.7	174.9	171.7
75°	133.5	133.5	133.5	133.5	133.5	133.5	133.5	133.5
77.5°	104.9	104.9	108.0	108.0	108.0	108.0	108.0	108.0
80°	85.9	85.9	85.9	85.9	89.0	85.9	85.9	85.9
82.5°	63.6	60.4	63.6	60.4	63.6	63.6	63.6	63.6
85°	38.1	38.1	38.1	38.1	38.1	38.1	38.1	38.1
87.5°	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
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)