

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: P584811

Luminaire Tested: **HC850D010-HM82555830-81WWW**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584811
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: HC850D010-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: 4606.8 lumens
Efficiency: N/A
Efficacy: 96.0 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

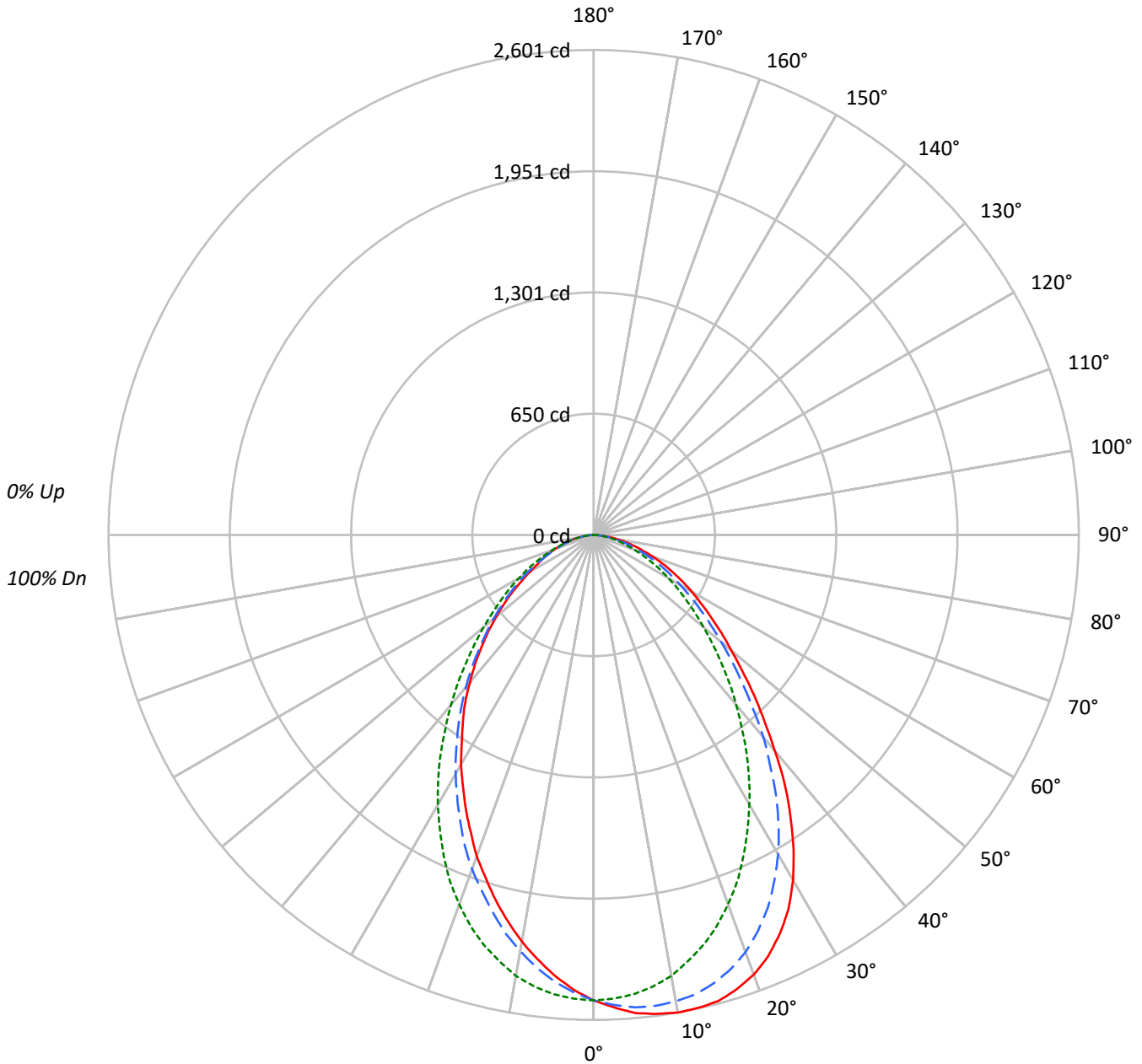
Input Watts (W): 48
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P584811

CATALOG NUMBER: HC850D010-HM82555830-81WWW

Luminous Intensity Polar Plot





TEST NUMBER: P584811

CATALOG NUMBER: HC850D010-HM82555830-81WWW

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	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°	76974	76974	76974
5°	79676	76531	73491
10°	81446	75193	69356
15°	82607	72659	64768
20°	82357	69132	60128
25°	80321	64649	55197
30°	76099	59456	50654
35°	69231	53805	46028
40°	60808	47854	41582
45°	53024	42092	37072
50°	46145	36886	32660
55°	41154	32413	28408
60°	37386	28406	24231
65°	33608	24713	21999
70°	29924	21070	19844
75°	26223	17752	16954
80°	22251	14419	15023
85°	16806	10791	11994



TEST NUMBER: P584811

CATALOG NUMBER: HC850D010-HM82555830-81WWW

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	233.8	5.1
10°-20°	644.2	14.0
20°-30°	894.2	19.4
30°-40°	924.5	20.1
40°-50°	774.1	16.8
50°-60°	562.0	12.2
60°-70°	354.6	7.7
70°-80°	175.7	3.8
80°-90°	43.7	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°	1772.2	38.5
0°-40°	2696.7	58.5
0°-60°	4032.8	87.5
0°-90°	4606.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4606.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2496	2496	2496	2496	2496	
5°	2574	2544	2472	2405	2374	246
15°	2588	2489	2276	2093	2029	728
25°	2361	2208	1900	1693	1622	1082
35°	1839	1704	1429	1267	1223	1145
45°	1216	1128	965	870	850	940
55°	766	698	603	552	528	691
65°	461	403	339	298	302	459
75°	220	183	149	142	142	236
85°	48	37	30	34	34	58
90°	0	0	0	0	0	



TEST NUMBER: P584811

CATALOG NUMBER: HC850D010-HM82555830-81WWW

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2496.2	2496.2	2496.2	2496.2	2496.2	2496.2	2496.2	2496.2	2496.2	2496.2	2496.2
2.5°	2536.8	2536.8	2540.2	2536.8	2536.8	2536.8	2533.5	2533.5	2530.1	2530.1	2523.3
5°	2574.0	2567.2	2574.0	2567.2	2567.2	2567.2	2563.9	2557.1	2553.7	2547.0	2543.6
7.5°	2591.0	2587.6	2587.6	2584.2	2584.2	2580.8	2577.4	2574.0	2560.5	2557.1	2547.0
10°	2601.1	2597.8	2597.8	2594.4	2587.6	2587.6	2580.8	2577.4	2560.5	2553.7	2540.2
12.5°	2597.8	2597.8	2597.8	2594.4	2584.2	2580.8	2574.0	2563.9	2550.4	2536.8	2523.3
15°	2587.6	2587.6	2580.8	2577.4	2567.2	2560.5	2557.1	2540.2	2526.7	2509.7	2489.4
17.5°	2553.7	2553.7	2550.4	2543.6	2533.5	2526.7	2519.9	2502.9	2489.4	2462.3	2441.9
20°	2509.7	2506.3	2502.9	2492.8	2482.6	2479.2	2469.0	2445.3	2428.4	2408.1	2381.0
22.5°	2445.3	2441.9	2438.5	2431.8	2414.9	2408.1	2401.4	2384.4	2353.9	2333.6	2299.8
25°	2360.7	2360.7	2353.9	2343.7	2326.8	2320.0	2309.8	2293.0	2265.9	2235.4	2208.2
27.5°	2262.5	2259.1	2248.9	2242.1	2228.6	2218.4	2201.5	2181.1	2154.1	2130.4	2096.5
30°	2137.2	2137.2	2130.4	2120.2	2103.3	2096.5	2082.9	2059.2	2032.2	2001.7	1977.9
32.5°	1994.9	1994.9	1984.7	1977.9	1967.8	1950.8	1947.4	1920.4	1896.7	1873.0	1845.9
35°	1839.1	1842.5	1835.7	1822.1	1805.2	1805.2	1798.5	1774.8	1747.7	1723.9	1703.6
37.5°	1683.2	1673.2	1669.8	1663.0	1652.8	1639.3	1632.5	1622.3	1598.6	1581.7	1551.3
40°	1510.6	1514.0	1507.2	1500.4	1497.0	1486.9	1483.5	1466.5	1449.6	1429.3	1415.8
42.5°	1354.8	1354.8	1354.8	1348.0	1341.2	1331.0	1327.6	1317.5	1297.2	1283.7	1263.3
45°	1215.9	1205.7	1205.7	1202.3	1198.9	1192.1	1182.1	1175.3	1161.8	1151.6	1127.9
47.5°	1080.4	1083.8	1080.4	1077.0	1066.8	1063.4	1060.0	1046.6	1033.0	1022.9	1005.9
50°	961.9	968.6	961.9	961.9	955.1	951.7	944.9	934.7	924.7	907.7	890.8
52.5°	863.7	863.7	860.3	856.9	846.7	839.9	836.5	833.1	816.2	802.8	789.2
55°	765.5	768.9	768.9	758.7	755.3	748.5	745.1	735.0	728.2	707.8	697.7
57.5°	680.8	677.4	680.8	674.0	667.3	660.5	657.1	650.3	640.1	626.6	613.0
60°	606.2	599.5	599.5	596.1	589.3	585.9	579.1	569.0	558.9	545.3	535.2
62.5°	531.8	528.4	525.0	521.6	514.8	511.4	508.0	497.9	487.7	477.5	467.4
65°	460.6	460.6	457.2	450.4	447.0	443.6	440.2	433.6	420.0	413.2	403.1
67.5°	396.3	392.9	392.9	386.1	379.3	376.0	376.0	369.2	359.0	348.8	342.0
70°	331.9	335.3	331.9	328.5	321.7	321.7	314.9	311.5	298.1	294.7	284.5
72.5°	274.4	274.4	271.0	271.0	264.2	260.8	260.8	254.0	247.2	240.5	233.7
75°	220.1	220.1	220.1	216.7	213.3	206.6	206.6	203.2	196.4	189.6	182.9
77.5°	172.8	169.4	169.4	166.0	162.6	159.2	159.2	155.8	149.0	145.7	138.9
80°	125.3	121.9	121.9	121.9	115.1	118.5	115.1	111.8	108.4	105.0	101.6
82.5°	81.2	84.6	84.6	81.2	77.9	77.9	77.9	74.5	74.5	71.1	67.7
85°	47.5	47.5	47.5	47.5	44.1	44.1	44.1	40.7	40.7	40.7	37.3
87.5°	20.3	20.3	20.3	20.3	20.3	20.3	17.0	17.0	17.0	17.0	17.0
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: P584811

CATALOG NUMBER: HC850D010-HM82555830-81WWW

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2496.2	2496.2	2496.2	2496.2	2496.2	2496.2	2496.2	2496.2	2496.2	2496.2	2496.2
2.5°	2523.3	2516.5	2513.1	2509.7	2509.7	2506.3	2502.9	2496.2	2496.2	2489.4	2486.0
5°	2536.8	2526.7	2519.9	2513.1	2509.7	2502.9	2496.2	2486.0	2482.6	2472.4	2462.3
7.5°	2540.2	2523.3	2516.5	2502.9	2496.2	2489.4	2475.8	2465.7	2452.1	2441.9	2428.4
10°	2526.7	2513.1	2496.2	2479.2	2475.8	2465.7	2445.3	2431.8	2414.9	2401.4	2381.0
12.5°	2506.3	2486.0	2469.0	2448.7	2438.5	2428.4	2408.1	2387.8	2364.1	2340.3	2320.0
15°	2472.4	2448.7	2425.1	2401.4	2387.8	2377.6	2353.9	2330.2	2306.4	2276.0	2255.7
17.5°	2421.7	2394.6	2370.8	2340.3	2326.8	2316.6	2286.2	2259.1	2228.6	2198.1	2177.8
20°	2357.3	2323.4	2296.4	2262.5	2252.3	2235.4	2204.9	2174.5	2140.6	2106.7	2082.9
22.5°	2272.7	2238.8	2208.2	2174.5	2157.5	2140.6	2110.0	2072.8	2039.0	2011.8	1988.1
25°	2174.5	2143.9	2106.7	2076.1	2055.8	2035.6	2001.7	1971.2	1940.7	1900.1	1876.4
27.5°	2066.0	2028.8	2001.7	1961.0	1940.7	1927.2	1889.9	1849.2	1822.1	1784.9	1757.8
30°	1944.0	1910.3	1879.8	1839.1	1818.7	1805.2	1771.4	1734.1	1707.0	1669.8	1642.7
32.5°	1815.3	1778.2	1740.9	1713.8	1690.0	1676.6	1639.3	1615.6	1581.7	1551.3	1520.8
35°	1676.6	1639.3	1612.2	1574.9	1561.3	1547.9	1517.4	1486.9	1456.3	1429.3	1405.6
37.5°	1527.5	1500.4	1469.9	1442.8	1432.6	1419.2	1381.9	1354.8	1331.0	1304.0	1283.7
40°	1381.9	1358.1	1337.8	1310.7	1293.8	1283.7	1256.6	1232.8	1205.7	1188.8	1168.5
42.5°	1249.8	1222.7	1202.3	1182.1	1165.1	1155.0	1131.2	1114.3	1094.0	1077.0	1053.4
45°	1110.9	1097.3	1073.6	1056.8	1046.6	1033.0	1016.1	995.8	978.8	965.2	948.3
47.5°	989.0	975.4	958.5	938.1	931.5	921.3	904.3	890.8	877.2	863.7	846.7
50°	877.2	860.3	846.7	833.1	826.4	816.2	799.4	792.6	782.4	768.9	758.7
52.5°	775.6	762.1	748.5	731.6	728.2	721.4	711.2	697.7	687.5	680.8	674.0
55°	684.2	670.7	660.5	646.9	643.5	636.8	623.2	616.4	609.6	602.9	596.1
57.5°	602.9	589.3	575.7	569.0	562.2	555.5	552.1	541.9	535.2	531.8	525.0
60°	528.4	514.8	504.7	494.5	491.1	487.7	480.9	474.1	467.4	460.6	457.2
62.5°	457.2	443.6	436.9	430.2	423.4	423.4	416.6	409.9	403.1	399.7	392.9
65°	392.9	386.1	376.0	365.8	362.4	362.4	352.2	348.8	345.4	338.7	331.9
67.5°	331.9	325.1	314.9	311.5	308.3	304.9	301.5	294.7	287.9	284.5	277.8
70°	277.8	271.0	264.2	260.8	257.4	254.0	247.2	243.9	237.1	233.7	230.3
72.5°	223.5	220.1	213.3	210.0	206.6	203.2	199.8	196.4	189.6	186.3	182.9
75°	179.6	176.2	169.4	166.0	162.6	162.6	159.2	152.4	149.0	149.0	145.7
77.5°	135.5	132.1	128.7	125.3	121.9	121.9	118.5	115.1	111.8	111.8	108.4
80°	98.2	94.8	91.4	91.4	91.4	88.0	84.6	84.6	81.2	81.2	77.9
82.5°	64.3	64.3	61.0	61.0	61.0	57.6	57.6	54.2	54.2	54.2	54.2
85°	37.3	37.3	37.3	33.9	33.9	33.9	33.9	33.9	33.9	30.5	33.9
87.5°	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	13.6	13.6	13.6
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: P584811

CATALOG NUMBER: HC850D010-HM82555830-81WWW

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2496.2	2496.2	2496.2	2496.2	2496.2	2496.2	2496.2	2496.2	2496.2	2496.2	2496.2
2.5°	2482.6	2479.2	2472.4	2472.4	2465.7	2465.7	2462.3	2458.9	2455.5	2452.1	2448.7
5°	2458.9	2445.3	2438.5	2435.1	2428.4	2425.1	2414.9	2408.1	2404.7	2398.0	2391.2
7.5°	2414.9	2401.4	2387.8	2384.4	2381.0	2367.5	2357.3	2347.1	2340.3	2333.6	2326.8
10°	2364.1	2350.5	2333.6	2326.8	2320.0	2303.0	2289.6	2279.4	2265.9	2252.3	2248.9
12.5°	2303.0	2282.8	2262.5	2255.7	2245.5	2228.6	2215.0	2198.1	2187.9	2171.1	2167.7
15°	2232.0	2208.2	2191.3	2174.5	2167.7	2150.7	2127.0	2113.4	2093.1	2086.3	2069.4
17.5°	2147.3	2123.6	2099.9	2093.1	2082.9	2059.2	2035.6	2018.6	1998.3	1988.1	1977.9
20°	2059.2	2028.8	2005.1	1998.3	1984.7	1964.4	1940.7	1923.8	1906.9	1886.5	1876.4
22.5°	1957.6	1923.8	1903.5	1886.5	1883.1	1859.4	1832.3	1818.7	1805.2	1788.3	1774.8
25°	1845.9	1815.3	1791.7	1778.2	1771.4	1751.0	1730.7	1713.8	1693.4	1683.2	1666.4
27.5°	1730.7	1710.4	1680.0	1666.4	1656.2	1639.3	1615.6	1605.4	1585.0	1571.5	1561.3
30°	1618.9	1588.4	1571.5	1554.7	1544.5	1527.5	1507.2	1497.0	1480.1	1466.5	1456.3
32.5°	1497.0	1476.7	1453.0	1446.2	1432.6	1415.8	1402.2	1385.3	1371.7	1358.1	1354.8
35°	1385.3	1358.1	1334.4	1327.6	1317.5	1300.6	1293.8	1283.7	1266.7	1263.3	1249.8
37.5°	1263.3	1249.8	1222.7	1212.5	1209.1	1195.5	1182.1	1175.3	1165.1	1155.0	1151.6
40°	1148.2	1131.2	1117.7	1107.5	1100.7	1090.6	1077.0	1073.6	1066.8	1053.4	1050.0
42.5°	1039.8	1022.9	1009.3	1005.9	995.8	985.6	978.8	968.6	965.2	961.9	955.1
45°	934.7	924.7	911.1	907.7	904.3	890.8	884.0	877.2	870.4	867.0	860.3
47.5°	839.9	829.8	819.6	816.2	809.4	806.1	796.0	792.6	782.4	779.0	775.6
50°	748.5	741.7	735.0	731.6	724.8	721.4	714.6	707.8	701.0	697.7	694.3
52.5°	667.3	660.5	653.7	650.3	646.9	640.1	633.4	626.6	623.2	619.8	616.4
55°	589.3	582.5	579.1	575.7	572.3	569.0	558.9	555.5	552.1	548.7	541.9
57.5°	518.2	511.4	504.7	504.7	501.3	497.9	491.1	484.3	484.3	477.5	470.8
60°	453.8	447.0	440.2	436.9	433.6	426.8	423.4	420.0	416.6	413.2	406.5
62.5°	386.1	382.7	376.0	376.0	369.2	365.8	362.4	359.0	355.6	348.8	345.4
65°	328.5	325.1	318.3	314.9	314.9	311.5	304.9	301.5	298.1	298.1	294.7
67.5°	274.4	271.0	264.2	260.8	260.8	257.4	254.0	254.0	250.6	247.2	250.6
70°	226.9	220.1	220.1	216.7	216.7	213.3	210.0	210.0	210.0	213.3	213.3
72.5°	179.6	176.2	172.8	172.8	172.8	172.8	169.4	169.4	172.8	176.2	176.2
75°	142.3	138.9	138.9	138.9	135.5	135.5	138.9	138.9	142.3	142.3	142.3
77.5°	105.0	105.0	105.0	105.0	105.0	105.0	108.4	108.4	111.8	111.8	111.8
80°	77.9	77.9	77.9	77.9	77.9	81.2	81.2	81.2	81.2	81.2	84.6
82.5°	54.2	54.2	54.2	54.2	54.2	54.2	54.2	57.6	57.6	57.6	57.6
85°	30.5	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9
87.5°	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6
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: P584811

CATALOG NUMBER: HC850D010-HM82555830-81WWW

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2496.2	2496.2	2496.2	2496.2	2496.2	2496.2	2496.2	2496.2
2.5°	2445.3	2445.3	2445.3	2448.7	2441.9	2441.9	2441.9	2441.9
5°	2387.8	2384.4	2381.0	2384.4	2377.6	2377.6	2374.2	2374.2
7.5°	2316.6	2313.2	2309.8	2309.8	2303.0	2303.0	2299.8	2296.4
10°	2238.8	2232.0	2235.4	2228.6	2225.2	2221.8	2218.4	2215.0
12.5°	2154.1	2147.3	2143.9	2137.2	2130.4	2127.0	2130.4	2123.6
15°	2062.6	2052.5	2049.1	2042.4	2035.6	2032.2	2032.2	2028.8
17.5°	1961.0	1954.2	1950.8	1944.0	1940.7	1933.9	1930.5	1927.2
20°	1866.2	1849.2	1852.6	1845.9	1842.5	1828.9	1828.9	1832.3
22.5°	1761.2	1751.0	1744.3	1737.5	1734.1	1727.3	1727.3	1723.9
25°	1656.2	1646.1	1642.7	1635.9	1632.5	1625.7	1622.3	1622.3
27.5°	1554.7	1541.1	1541.1	1534.3	1527.5	1524.1	1520.8	1517.4
30°	1446.2	1436.0	1432.6	1432.6	1429.3	1429.3	1419.2	1422.6
32.5°	1344.6	1337.8	1334.4	1327.6	1327.6	1324.2	1324.2	1314.1
35°	1243.0	1232.8	1236.2	1229.4	1226.0	1222.7	1226.0	1222.7
37.5°	1144.8	1138.0	1138.0	1131.2	1131.2	1127.9	1124.5	1131.2
40°	1046.6	1043.2	1039.8	1036.4	1039.8	1036.4	1029.7	1033.0
42.5°	948.3	948.3	944.9	944.9	941.5	941.5	941.5	941.5
45°	860.3	856.9	856.9	853.5	853.5	853.5	853.5	850.1
47.5°	772.2	768.9	768.9	768.9	765.5	765.5	762.1	765.5
50°	687.5	687.5	684.2	684.2	687.5	684.2	680.8	680.8
52.5°	609.6	609.6	606.2	606.2	602.9	599.5	602.9	602.9
55°	538.6	535.2	531.8	531.8	528.4	525.0	525.0	528.4
57.5°	470.8	467.4	464.0	464.0	457.2	453.8	453.8	453.8
60°	406.5	399.7	399.7	396.3	396.3	392.9	392.9	392.9
62.5°	345.4	342.0	342.0	342.0	342.0	338.7	338.7	338.7
65°	294.7	294.7	294.7	298.1	298.1	301.5	301.5	301.5
67.5°	254.0	257.4	257.4	257.4	260.8	260.8	260.8	257.4
70°	216.7	216.7	216.7	220.1	220.1	220.1	220.1	220.1
72.5°	179.6	179.6	179.6	179.6	179.6	179.6	179.6	179.6
75°	142.3	145.7	145.7	145.7	142.3	145.7	145.7	142.3
77.5°	111.8	111.8	111.8	111.8	111.8	111.8	111.8	111.8
80°	84.6	84.6	84.6	84.6	84.6	84.6	84.6	84.6
82.5°	57.6	57.6	57.6	57.6	57.6	57.6	57.6	57.6
85°	33.9	33.9	33.9	33.9	33.9	33.9	33.9	33.9
87.5°	13.6	13.6	13.6	13.6	13.6	13.6	13.6	13.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Report Generated By 670245859 / DESKTOP-HRDQ47P





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













(END OF REPORT)