

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: P584812

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

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584812
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: HC850D010-HM82555830-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4796.5 lumens
Efficiency: N/A
Efficacy: 99.9 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

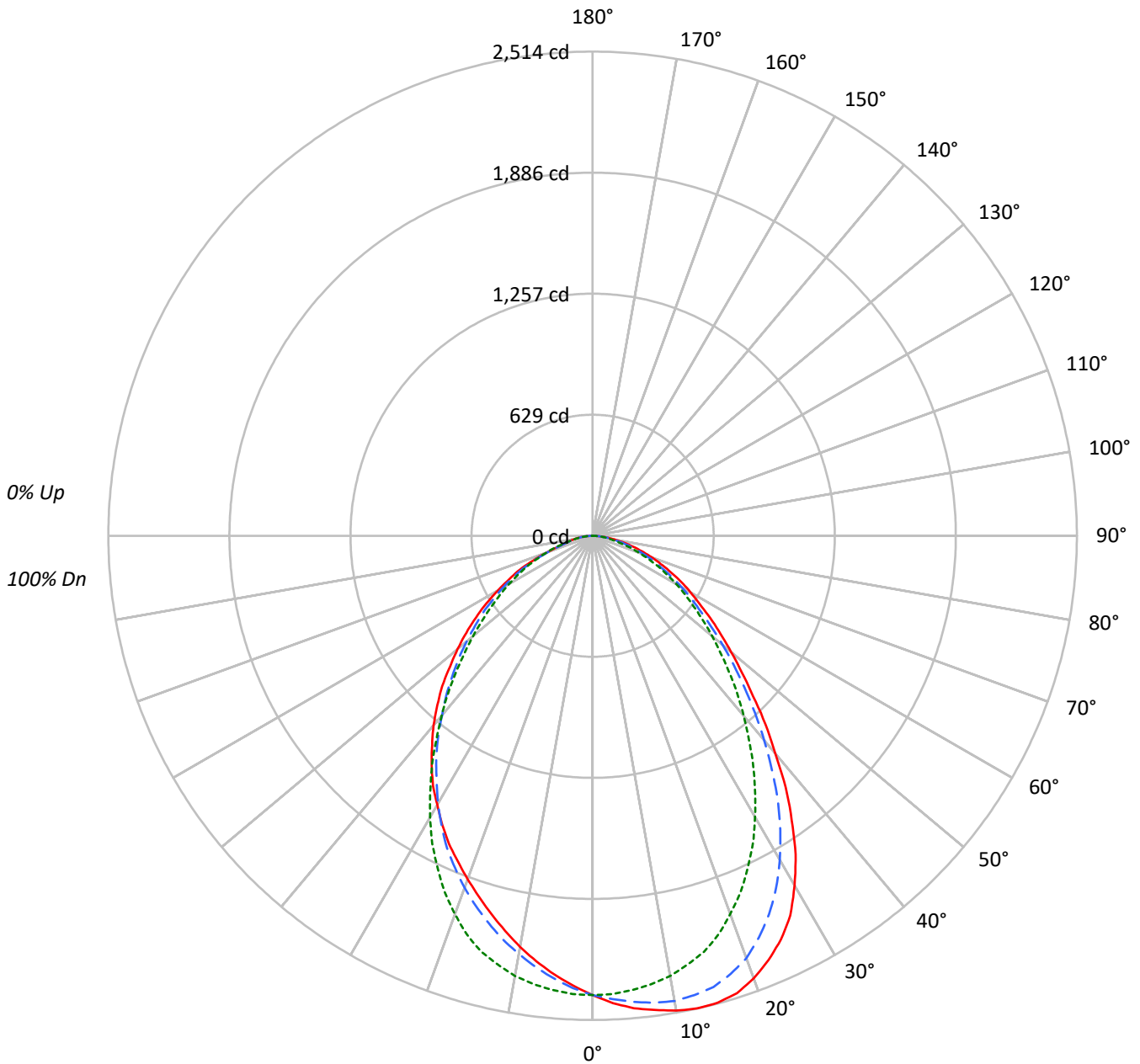
Input Watts (W): 48
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	73538	73538	73538
5°	76231	73296	70780
10°	78386	72660	67884
15°	80136	71373	64886
20°	80260	68587	62254
25°	78722	64775	60053
30°	74660	60069	57412
35°	67839	54708	54836
40°	59314	49090	51682
45°	51406	43727	48162
50°	45018	38839	43876
55°	40063	34423	39703
60°	36140	30923	34888
65°	32623	27194	30397
70°	29320	22900	22594
75°	25830	18157	16954
80°	21647	15023	16231
85°	16806	13197	14400



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	225.0	4.7
10°-20°	633.7	13.2
20°-30°	905.6	18.9
30°-40°	962.3	20.1
40°-50°	828.5	17.3
50°-60°	619.4	12.9
60°-70°	395.1	8.2
70°-80°	179.8	3.7
80°-90°	47.2	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°	1764.3	36.8
0°-40°	2726.5	56.8
0°-60°	4174.4	87.0
0°-90°	4796.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4796.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2385	2385	2385	2385	2385	
5°	2463	2429	2368	2307	2287	236
15°	2510	2425	2236	2083	2032	707
25°	2314	2168	1904	1789	1765	1059
35°	1802	1677	1453	1416	1457	1122
45°	1179	1114	1003	1030	1104	916
55°	745	684	640	694	738	670
65°	447	396	373	390	417	446
75°	217	186	152	139	142	230
85°	48	41	37	41	41	57
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°	2384.8	2384.8	2384.8	2384.8	2384.8	2384.8	2384.8	2384.8	2384.8	2384.8	2384.8
2.5°	2428.8	2422.1	2425.4	2422.1	2425.4	2425.4	2418.7	2418.7	2418.7	2418.7	2408.5
5°	2462.7	2459.3	2459.3	2456.0	2452.6	2456.0	2452.6	2449.2	2442.4	2439.0	2428.8
7.5°	2483.1	2483.1	2483.1	2483.1	2479.7	2476.3	2472.9	2466.1	2459.3	2452.6	2445.8
10°	2503.4	2506.8	2503.4	2500.0	2496.6	2489.9	2486.5	2479.7	2469.5	2459.3	2452.6
12.5°	2513.6	2513.6	2510.2	2510.2	2503.4	2500.0	2489.9	2479.7	2469.5	2459.3	2442.4
15°	2510.2	2510.2	2506.8	2503.4	2493.2	2489.9	2483.1	2472.9	2456.0	2442.4	2425.4
17.5°	2489.9	2486.5	2479.7	2479.7	2466.1	2462.7	2456.0	2442.4	2425.4	2405.1	2384.8
20°	2445.8	2445.8	2442.4	2439.0	2425.4	2415.3	2408.5	2391.5	2378.1	2354.4	2334.0
22.5°	2384.8	2391.5	2384.8	2378.1	2361.1	2357.8	2347.6	2327.2	2306.9	2279.8	2256.1
25°	2313.7	2310.3	2306.9	2300.1	2286.6	2279.8	2266.2	2245.9	2225.7	2195.1	2168.0
27.5°	2222.3	2208.7	2208.7	2195.1	2185.0	2174.8	2168.0	2147.7	2120.6	2096.8	2063.1
30°	2096.8	2100.2	2083.3	2079.9	2063.1	2056.3	2042.7	2022.4	1998.6	1971.5	1944.4
32.5°	1961.3	1951.2	1951.2	1937.6	1924.1	1914.0	1910.6	1886.9	1866.5	1839.4	1812.3
35°	1802.1	1802.1	1792.0	1788.6	1775.0	1768.2	1758.2	1744.6	1720.9	1697.2	1676.8
37.5°	1646.3	1639.5	1636.1	1629.4	1619.2	1609.1	1609.1	1585.4	1582.0	1554.9	1527.8
40°	1473.5	1480.3	1473.5	1463.4	1460.0	1453.3	1449.9	1436.4	1426.2	1402.4	1385.5
42.5°	1327.9	1321.1	1321.1	1317.7	1304.3	1304.3	1297.5	1290.7	1273.7	1267.0	1246.6
45°	1178.8	1185.6	1175.4	1178.8	1165.3	1165.3	1165.3	1151.7	1138.3	1128.1	1114.5
47.5°	1050.1	1053.5	1053.5	1043.3	1039.9	1039.9	1033.2	1026.4	1016.2	1002.7	992.6
50°	938.4	941.7	935.0	931.6	924.8	921.4	921.4	907.8	901.1	887.5	880.7
52.5°	836.8	836.8	833.4	833.4	823.2	823.2	816.4	806.3	799.5	792.7	775.7
55°	745.2	745.2	741.8	738.5	738.5	728.3	724.9	714.7	707.9	694.4	684.3
57.5°	657.2	660.6	657.2	653.8	650.4	647.0	640.3	630.1	623.3	613.1	606.4
60°	586.0	586.0	582.6	579.2	572.5	569.1	565.7	558.9	548.7	541.9	531.9
62.5°	518.3	514.9	511.6	508.2	501.4	501.4	494.6	487.8	477.7	470.9	464.1
65°	447.1	447.1	443.8	443.8	440.4	433.6	430.2	426.8	413.2	409.9	396.3
67.5°	382.8	386.1	379.5	379.5	372.7	372.7	369.3	359.1	355.7	348.9	342.2
70°	325.2	325.2	325.2	321.8	315.0	311.7	308.3	301.5	298.1	291.3	284.5
72.5°	267.6	267.6	264.2	264.2	260.8	257.4	254.0	247.2	247.2	240.5	233.7
75°	216.8	216.8	213.5	210.1	206.7	206.7	203.3	199.9	193.1	189.7	186.3
77.5°	166.0	166.0	166.0	162.6	159.2	159.2	159.2	152.4	145.7	145.7	142.3
80°	121.9	121.9	118.5	118.5	115.1	115.1	115.1	111.8	108.4	105.0	101.6
82.5°	81.2	81.2	81.2	81.2	77.9	77.9	77.9	74.6	71.2	71.2	71.2
85°	47.5	47.5	47.5	47.5	44.1	44.1	44.1	44.1	44.1	40.7	40.7
87.5°	20.3	17.0	20.3	17.0	20.3	17.0	20.3	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



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2384.8	2384.8	2384.8	2384.8	2384.8	2384.8	2384.8	2384.8	2384.8	2384.8	2384.8
2.5°	2411.9	2408.5	2405.1	2401.7	2401.7	2398.3	2391.5	2388.2	2384.8	2381.4	2381.4
5°	2425.4	2422.1	2415.3	2408.5	2405.1	2398.3	2391.5	2384.8	2378.1	2367.9	2364.5
7.5°	2435.6	2425.4	2418.7	2405.1	2401.7	2394.9	2384.8	2374.7	2361.1	2347.6	2337.4
10°	2435.6	2422.1	2411.9	2394.9	2388.2	2381.4	2367.9	2351.0	2334.0	2320.5	2303.5
12.5°	2428.8	2411.9	2394.9	2378.1	2367.9	2357.8	2337.4	2320.5	2300.1	2279.8	2266.2
15°	2405.1	2384.8	2364.5	2344.2	2334.0	2320.5	2300.1	2276.4	2256.1	2235.7	2212.1
17.5°	2361.1	2340.8	2317.1	2293.3	2279.8	2269.6	2239.1	2222.3	2191.8	2171.4	2151.1
20°	2303.5	2279.8	2249.3	2225.7	2208.7	2198.5	2174.8	2144.3	2120.6	2090.1	2069.8
22.5°	2228.9	2198.5	2168.0	2144.3	2127.3	2113.8	2083.3	2052.9	2032.5	2005.4	1981.7
25°	2140.9	2110.4	2079.9	2046.1	2029.2	2015.6	1988.5	1961.3	1934.2	1903.8	1883.5
27.5°	2035.9	2002.0	1974.9	1944.4	1927.4	1907.2	1876.7	1849.6	1822.5	1802.1	1775.0
30°	1920.7	1883.5	1856.4	1825.9	1808.9	1792.0	1761.6	1734.4	1710.7	1687.0	1673.4
32.5°	1781.8	1754.8	1727.7	1697.2	1683.6	1673.4	1642.9	1615.8	1588.8	1568.4	1558.3
35°	1649.7	1619.2	1595.6	1568.4	1551.5	1541.3	1514.2	1490.5	1476.9	1453.3	1439.7
37.5°	1510.8	1487.1	1460.0	1433.0	1422.8	1412.6	1392.3	1368.5	1348.2	1331.3	1324.5
40°	1365.2	1344.8	1321.1	1304.3	1294.1	1283.9	1267.0	1250.0	1236.5	1219.5	1212.7
42.5°	1226.3	1212.7	1192.4	1172.0	1161.9	1158.5	1138.3	1124.7	1117.9	1111.1	1104.4
45°	1101.0	1080.6	1067.1	1053.5	1043.3	1036.6	1026.4	1016.2	1009.4	1002.7	996.0
47.5°	979.0	962.1	948.5	938.4	928.2	924.8	918.0	907.8	901.1	901.1	901.1
50°	867.2	853.6	840.2	833.4	830.0	823.2	816.4	813.0	809.6	809.6	809.6
52.5°	769.0	755.4	745.2	738.5	738.5	731.7	724.9	721.5	721.5	721.5	721.5
55°	677.6	667.4	660.6	653.8	647.0	643.7	643.7	643.7	640.3	640.3	643.7
57.5°	596.2	589.4	579.2	572.5	569.1	569.1	565.7	562.3	565.7	569.1	572.5
60°	521.7	514.9	511.6	501.4	501.4	501.4	498.0	498.0	498.0	501.4	504.8
62.5°	453.9	450.5	443.8	440.4	437.0	437.0	433.6	433.6	433.6	433.6	437.0
65°	392.9	386.1	379.5	379.5	379.5	376.1	376.1	369.3	372.7	372.7	369.3
67.5°	335.4	328.6	325.2	321.8	318.4	318.4	315.0	311.7	308.3	308.3	308.3
70°	281.1	274.4	274.4	267.6	267.6	264.2	260.8	260.8	257.4	254.0	250.6
72.5°	227.0	223.6	220.2	216.8	216.8	216.8	213.5	210.1	206.7	203.3	196.5
75°	179.6	179.6	172.8	169.4	169.4	166.0	162.6	159.2	155.8	152.4	149.0
77.5°	138.9	135.5	128.7	125.3	125.3	125.3	121.9	118.5	115.1	111.8	108.4
80°	101.6	98.2	94.8	91.4	91.4	91.4	88.0	88.0	84.6	84.6	84.6
82.5°	67.8	67.8	64.4	64.4	64.4	64.4	61.0	61.0	61.0	61.0	61.0
85°	40.7	40.7	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3	37.3
87.5°	17.0	17.0	17.0	17.0	17.0	17.0	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2384.8	2384.8	2384.8	2384.8	2384.8	2384.8	2384.8	2384.8	2384.8	2384.8	2384.8
2.5°	2374.7	2374.7	2367.9	2364.5	2361.1	2364.5	2357.8	2354.4	2351.0	2351.0	2347.6
5°	2354.4	2351.0	2337.4	2334.0	2330.6	2327.2	2320.5	2313.7	2306.9	2303.5	2300.1
7.5°	2327.2	2317.1	2303.5	2300.1	2296.7	2286.6	2276.4	2269.6	2259.4	2256.1	2249.3
10°	2290.0	2276.4	2266.2	2256.1	2249.3	2239.1	2228.9	2218.9	2205.3	2201.9	2191.8
12.5°	2245.9	2228.9	2208.7	2205.3	2195.1	2181.6	2168.0	2157.9	2147.7	2140.9	2130.7
15°	2191.8	2174.8	2154.5	2144.3	2134.1	2124.0	2107.0	2093.4	2083.3	2073.1	2063.1
17.5°	2127.3	2107.0	2090.1	2079.9	2073.1	2056.3	2042.7	2025.8	2015.6	2005.4	1995.2
20°	2049.5	2032.5	2008.8	1998.6	1995.2	1981.7	1964.7	1958.0	1944.4	1934.2	1927.4
22.5°	1961.3	1944.4	1924.1	1917.4	1903.8	1897.1	1880.1	1873.3	1866.5	1856.4	1853.0
25°	1863.2	1846.2	1829.3	1825.9	1815.7	1808.9	1798.7	1788.6	1788.6	1778.4	1778.4
27.5°	1761.6	1744.6	1731.1	1724.3	1720.9	1714.1	1703.9	1700.5	1697.2	1693.8	1693.8
30°	1653.1	1632.7	1626.0	1622.6	1619.2	1612.4	1609.1	1602.3	1605.7	1609.1	1605.7
32.5°	1537.9	1531.2	1517.6	1510.8	1514.2	1510.8	1504.0	1510.8	1507.4	1514.2	1517.6
35°	1426.2	1419.4	1412.6	1412.6	1405.8	1405.8	1405.8	1409.2	1416.0	1419.4	1426.2
37.5°	1317.7	1307.5	1304.3	1300.9	1304.3	1304.3	1304.3	1310.9	1317.7	1324.5	1334.6
40°	1202.6	1195.8	1195.8	1195.8	1195.8	1205.9	1202.6	1209.3	1216.1	1226.3	1236.5
42.5°	1094.2	1094.2	1097.6	1097.6	1097.6	1097.6	1104.4	1114.5	1124.7	1134.9	1145.0
45°	992.6	992.6	992.6	999.3	999.3	1002.7	1016.2	1023.0	1029.8	1039.9	1050.1
47.5°	897.7	897.7	901.1	904.5	907.8	914.6	921.4	931.6	941.7	948.5	958.7
50°	809.6	813.0	819.8	826.6	826.6	830.0	840.2	846.8	853.6	863.8	867.2
52.5°	724.9	731.7	738.5	741.8	745.2	752.0	755.4	765.6	769.0	779.1	782.5
55°	647.0	650.4	660.6	664.0	664.0	670.8	677.6	684.3	694.4	694.4	701.2
57.5°	575.8	579.2	586.0	589.4	586.0	596.2	599.6	606.4	609.8	616.5	619.9
60°	504.8	511.6	514.9	514.9	518.3	521.7	528.5	528.5	535.3	541.9	541.9
62.5°	437.0	440.4	443.8	447.1	450.5	447.1	457.3	457.3	464.1	467.5	474.3
65°	372.7	376.1	376.1	379.5	379.5	382.8	382.8	386.1	389.5	396.3	399.7
67.5°	308.3	308.3	308.3	311.7	308.3	311.7	311.7	315.0	315.0	321.8	325.2
70°	250.6	247.2	243.9	243.9	243.9	243.9	240.5	243.9	243.9	247.2	247.2
72.5°	193.1	189.7	186.3	182.9	182.9	179.6	176.2	179.6	179.6	182.9	182.9
75°	145.7	138.9	138.9	138.9	135.5	135.5	135.5	138.9	138.9	138.9	142.3
77.5°	108.4	108.4	105.0	105.0	105.0	108.4	108.4	111.8	111.8	111.8	111.8
80°	81.2	84.6	84.6	84.6	84.6	88.0	88.0	88.0	88.0	91.4	91.4
82.5°	61.0	61.0	61.0	61.0	64.4	64.4	64.4	64.4	64.4	64.4	64.4
85°	37.3	40.7	40.7	37.3	40.7	40.7	40.7	40.7	40.7	40.7	40.7
87.5°	17.0	17.0	17.0	17.0	17.0	17.0	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: P584812

CATALOG NUMBER: HC850D010-HM82555830-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2384.8	2384.8	2384.8	2384.8	2384.8	2384.8	2384.8	2384.8
2.5°	2344.2	2344.2	2344.2	2344.2	2340.8	2340.8	2340.8	2337.4
5°	2293.3	2293.3	2293.3	2286.6	2290.0	2290.0	2283.2	2286.6
7.5°	2242.5	2239.1	2235.7	2235.7	2232.3	2228.9	2225.7	2228.9
10°	2185.0	2174.8	2174.8	2171.4	2171.4	2164.6	2164.6	2168.0
12.5°	2120.6	2113.8	2113.8	2110.4	2107.0	2103.6	2100.2	2100.2
15°	2056.3	2049.5	2046.1	2042.7	2039.3	2032.5	2035.9	2032.5
17.5°	1991.9	1981.7	1981.7	1978.3	1974.9	1968.1	1968.1	1964.7
20°	1917.4	1914.0	1907.2	1910.6	1907.2	1900.4	1897.1	1897.1
22.5°	1842.8	1842.8	1839.4	1839.4	1836.0	1832.6	1829.3	1829.3
25°	1771.6	1768.2	1771.6	1771.6	1761.6	1761.6	1761.6	1765.0
27.5°	1690.4	1693.8	1690.4	1690.4	1690.4	1690.4	1693.8	1690.4
30°	1609.1	1609.1	1609.1	1612.4	1619.2	1615.8	1615.8	1612.4
32.5°	1521.0	1524.4	1524.4	1527.8	1531.2	1537.9	1537.9	1541.3
35°	1433.0	1439.7	1443.1	1439.7	1449.9	1449.9	1456.7	1456.7
37.5°	1341.4	1344.8	1351.6	1355.0	1361.8	1365.2	1368.5	1368.5
40°	1243.2	1256.8	1260.2	1263.6	1273.7	1273.7	1277.1	1283.9
42.5°	1151.7	1165.3	1168.6	1172.0	1178.8	1189.0	1185.6	1192.4
45°	1063.7	1073.8	1077.2	1080.6	1090.8	1094.2	1094.2	1104.4
47.5°	968.9	975.6	979.0	985.8	992.6	999.3	1006.0	1002.7
50°	873.9	884.1	890.9	894.3	904.5	907.8	911.2	914.6
52.5°	789.3	796.1	799.5	802.9	813.0	816.4	819.8	826.6
55°	707.9	711.3	718.1	714.7	724.9	728.3	731.7	738.5
57.5°	626.7	630.1	633.5	633.5	640.3	647.0	650.4	653.8
60°	548.7	555.5	558.9	558.9	558.9	565.7	565.7	565.7
62.5°	477.7	477.7	481.0	481.0	487.8	487.8	487.8	487.8
65°	403.1	406.5	409.9	409.9	416.6	413.2	420.0	416.6
67.5°	325.2	325.2	332.0	332.0	328.6	332.0	332.0	332.0
70°	247.2	247.2	250.6	250.6	250.6	250.6	250.6	250.6
72.5°	182.9	182.9	182.9	186.3	182.9	182.9	186.3	182.9
75°	142.3	142.3	142.3	142.3	142.3	142.3	142.3	142.3
77.5°	111.8	111.8	115.1	115.1	115.1	115.1	115.1	115.1
80°	91.4	91.4	91.4	91.4	94.8	91.4	91.4	91.4
82.5°	67.8	64.4	67.8	64.4	67.8	67.8	67.8	67.8
85°	40.7	40.7	40.7	40.7	40.7	40.7	40.7	40.7
87.5°	17.0	17.0	17.0	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



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













(END OF REPORT)