

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: P584827

Luminaire Tested: **HC850D010-HM82555835-81WWBB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584827
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-17)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC850D010-HM82555835-81WWBB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4473.9 lumens
Efficiency: N/A
Efficacy: 93.2 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.07 / 1.16
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

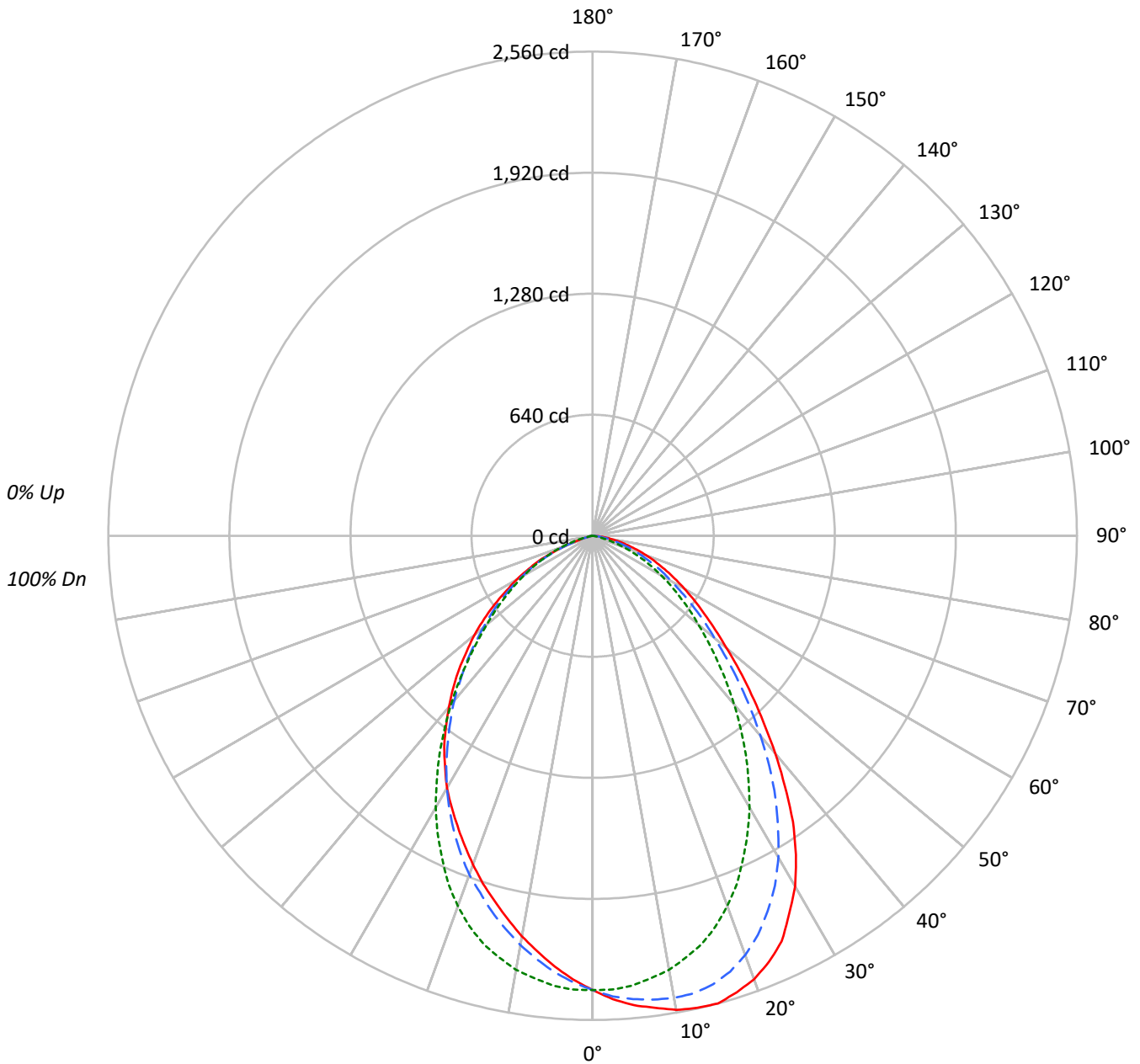
Input Watts (W): 48
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77																			
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67																			
4	88	78	70	64	86	76	69	64	74	68	63	72	66	62	70	65	61	59																			
5	82	70	63	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53																			
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	58	53	49	47																			
7	71	59	51	45	69	58	51	45	57	50	45	55	49	45	54	49	44	43																			
8	66	54	46	41	65	53	46	41	52	46	41	51	45	41	50	44	40	39																			
9	62	50	43	37	61	50	42	37	48	42	37	47	41	37	46	41	37	35																			
10	59	47	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32																			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	74063	74063	74063
5°	77125	73900	70789
10°	79705	72960	67336
15°	81723	71290	63842
20°	81881	68331	60676
25°	80498	64010	57535
30°	76188	59061	54841
35°	69469	53116	51490
40°	60413	46827	47548
45°	51825	40548	43526
50°	44264	34967	39098
55°	38794	30112	33966
60°	34543	25687	28567
65°	30645	20956	22794
70°	27192	15534	12947
75°	22673	8137	3848
80°	17847	2557	639
85°	12702	1274	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	226.3	5.1
10°-20°	634.3	14.2
20°-30°	897.8	20.1
30°-40°	939.3	21.0
40°-50°	783.5	17.5
50°-60°	555.6	12.4
60°-70°	320.0	7.2
70°-80°	103.0	2.3
80°-90°	14.2	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°	1758.5	39.3
0°-40°	2697.8	60.3
0°-60°	4036.8	90.2
0°-90°	4473.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4473.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2402	2402	2402	2402	2402	
5°	2492	2459	2387	2316	2287	239
15°	2560	2456	2233	2057	2000	720
25°	2366	2190	1881	1730	1691	1080
35°	1845	1684	1411	1336	1368	1144
45°	1188	1091	930	941	998	921
55°	722	646	560	589	632	652
65°	420	352	287	287	312	420
75°	190	140	68	32	32	206
85°	36	18	4	0	0	45
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°	2401.8	2401.8	2401.8	2401.8	2401.8	2401.8	2401.8	2401.8	2401.8	2401.8	2401.8
2.5°	2452.1	2448.6	2445.0	2448.6	2445.0	2448.6	2445.0	2445.0	2441.3	2437.7	2437.7
5°	2491.6	2488.0	2488.0	2488.0	2484.5	2480.9	2480.9	2477.2	2470.1	2466.5	2459.3
7.5°	2516.7	2520.4	2520.4	2520.4	2513.1	2513.1	2506.0	2498.7	2491.6	2484.5	2473.6
10°	2545.5	2545.5	2541.9	2538.2	2531.1	2527.5	2523.9	2516.7	2506.0	2491.6	2480.9
12.5°	2556.3	2556.3	2552.6	2545.5	2541.9	2538.2	2534.7	2523.9	2509.6	2491.6	2477.2
15°	2559.9	2552.6	2549.0	2545.5	2538.2	2527.5	2527.5	2513.1	2495.2	2473.6	2455.7
17.5°	2531.1	2534.7	2527.5	2520.4	2509.6	2502.4	2491.6	2480.9	2459.3	2434.2	2416.2
20°	2495.2	2491.6	2488.0	2477.2	2462.8	2459.3	2448.6	2430.6	2412.6	2383.9	2358.8
22.5°	2437.7	2434.2	2427.0	2419.8	2405.5	2398.3	2387.4	2365.9	2340.8	2312.0	2283.4
25°	2365.9	2358.8	2348.1	2333.7	2322.9	2315.7	2301.3	2279.8	2251.0	2218.8	2190.0
27.5°	2251.0	2261.8	2254.7	2233.1	2222.4	2208.0	2204.4	2175.6	2150.5	2118.2	2086.0
30°	2139.7	2139.7	2129.0	2118.2	2100.2	2089.5	2075.1	2053.6	2028.4	1988.9	1963.8
32.5°	1999.8	1996.2	1981.8	1978.2	1963.8	1942.3	1938.7	1910.0	1884.9	1856.1	1823.9
35°	1845.4	1838.1	1823.9	1813.1	1805.9	1795.1	1784.4	1759.2	1734.1	1705.3	1683.8
37.5°	1669.4	1669.4	1665.8	1647.9	1640.7	1633.6	1622.8	1597.7	1583.3	1554.5	1533.0
40°	1500.8	1497.1	1486.4	1482.8	1475.6	1464.8	1457.6	1443.2	1421.7	1400.2	1378.6
42.5°	1335.6	1339.2	1324.8	1328.3	1314.1	1306.8	1303.2	1281.7	1270.9	1249.4	1231.4
45°	1188.4	1184.8	1177.7	1174.0	1166.8	1159.6	1152.5	1141.6	1123.8	1102.3	1091.4
47.5°	1052.0	1041.1	1041.1	1037.6	1034.0	1019.6	1016.0	1005.2	994.5	973.0	958.6
50°	922.7	922.7	922.7	919.1	908.3	904.7	897.6	886.8	876.0	861.7	840.2
52.5°	818.5	818.5	818.5	815.0	800.6	797.0	793.4	779.0	764.8	753.9	739.6
55°	721.6	725.2	721.6	714.5	703.7	703.7	692.9	685.7	671.4	660.6	646.2
57.5°	639.1	639.1	631.8	628.3	621.1	617.5	610.3	603.2	585.2	574.4	556.4
60°	560.1	556.4	556.4	549.3	542.1	534.9	531.3	520.6	513.4	495.4	481.0
62.5°	488.3	488.3	481.0	481.0	466.8	466.8	463.2	452.4	441.6	423.6	416.5
65°	420.0	420.0	416.5	412.9	402.1	398.5	394.9	384.1	373.4	362.6	351.9
67.5°	359.0	359.0	351.9	348.2	341.1	337.5	330.2	323.1	312.4	301.6	290.8
70°	301.6	298.0	294.4	290.8	283.6	280.1	272.8	265.7	255.0	247.7	237.0
72.5°	244.1	244.1	240.6	233.3	229.8	226.2	222.6	215.4	204.7	193.8	186.7
75°	190.3	190.3	190.3	183.1	175.9	172.3	172.3	165.2	157.9	147.2	140.0
77.5°	147.2	143.6	140.0	140.0	132.8	129.3	125.7	122.0	111.3	107.7	100.5
80°	100.5	104.2	100.5	96.9	93.4	89.8	89.8	82.5	79.0	71.8	64.6
82.5°	68.3	64.6	64.6	61.0	61.0	57.4	57.4	50.3	46.6	43.1	39.5
85°	35.9	35.9	32.3	32.3	32.3	28.8	28.8	25.1	25.1	21.5	18.0
87.5°	10.8	10.8	10.8	10.8	10.8	10.8	10.8	10.8	7.1	7.1	7.1
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°	2401.8	2401.8	2401.8	2401.8	2401.8	2401.8	2401.8	2401.8	2401.8	2401.8	2401.8
2.5°	2434.2	2427.0	2423.5	2423.5	2419.8	2416.2	2412.6	2409.1	2401.8	2401.8	2394.7
5°	2452.1	2445.0	2441.3	2430.6	2423.5	2423.5	2409.1	2405.5	2394.7	2387.4	2380.3
7.5°	2466.5	2452.1	2441.3	2430.6	2423.5	2416.2	2401.8	2387.4	2373.2	2358.8	2351.6
10°	2466.5	2452.1	2434.2	2416.2	2409.1	2401.8	2383.9	2362.3	2344.4	2330.1	2312.0
12.5°	2459.3	2437.7	2416.2	2401.8	2387.4	2376.7	2355.2	2333.7	2312.0	2283.4	2269.0
15°	2437.7	2409.1	2387.4	2362.3	2351.6	2333.7	2315.7	2283.4	2258.3	2233.1	2215.1
17.5°	2394.7	2358.8	2333.7	2308.5	2290.5	2279.8	2251.0	2222.4	2193.6	2164.9	2143.4
20°	2330.1	2297.8	2269.0	2236.8	2222.4	2208.0	2172.1	2143.4	2114.6	2082.3	2060.8
22.5°	2251.0	2218.8	2179.2	2154.1	2132.6	2114.6	2082.3	2050.0	2021.3	1992.6	1963.8
25°	2154.1	2121.9	2086.0	2046.5	2032.1	2014.1	1978.2	1945.9	1913.5	1881.3	1856.1
27.5°	2050.0	2006.9	1978.2	1935.2	1920.8	1902.8	1863.3	1827.4	1798.7	1773.6	1744.8
30°	1924.4	1892.0	1852.5	1813.1	1798.7	1780.7	1748.5	1716.1	1687.5	1658.7	1629.9
32.5°	1788.0	1755.6	1716.1	1687.5	1665.8	1651.4	1619.2	1590.4	1561.8	1533.0	1507.9
35°	1644.3	1608.4	1579.7	1551.0	1533.0	1515.0	1482.8	1457.6	1436.1	1411.0	1385.8
37.5°	1497.1	1472.0	1443.2	1411.0	1393.0	1378.6	1353.5	1324.8	1306.8	1285.3	1267.3
40°	1353.5	1324.8	1299.7	1270.9	1256.6	1245.8	1220.7	1199.2	1181.2	1163.3	1152.5
42.5°	1206.3	1181.2	1156.0	1138.1	1127.4	1116.5	1098.6	1073.5	1062.7	1044.7	1034.0
45°	1069.9	1048.4	1030.4	1005.2	998.1	990.8	969.3	951.4	940.7	929.8	922.7
47.5°	940.7	926.3	904.7	890.4	879.6	872.4	858.0	843.7	832.9	825.8	818.5
50°	829.3	811.4	797.0	782.6	775.5	764.8	750.4	743.1	736.0	728.9	728.9
52.5°	725.2	707.2	692.9	682.1	675.0	667.7	657.0	653.5	646.2	646.2	642.6
55°	628.3	617.5	603.2	588.8	585.2	581.6	574.4	567.2	563.7	560.1	563.7
57.5°	545.7	534.9	520.6	509.8	506.2	502.7	499.0	491.9	488.3	488.3	488.3
60°	470.3	459.5	448.8	438.0	438.0	430.8	427.3	423.6	420.0	416.5	416.5
62.5°	402.1	391.4	380.5	373.4	369.8	366.2	359.0	355.4	351.9	351.9	348.2
65°	341.1	326.7	323.1	312.4	308.7	305.2	301.6	294.4	290.8	287.2	283.6
67.5°	280.1	272.8	262.1	255.0	251.3	247.7	244.1	237.0	233.3	229.8	222.6
70°	226.2	219.0	211.8	204.7	201.1	197.4	190.3	183.1	179.6	172.3	161.6
72.5°	175.9	168.7	161.6	154.4	150.8	147.2	140.0	132.8	125.7	118.4	111.3
75°	132.8	125.7	114.9	107.7	104.2	104.2	93.4	86.2	79.0	68.3	61.0
77.5°	93.4	82.5	79.0	71.8	68.3	61.0	53.9	46.6	39.5	35.9	28.8
80°	61.0	53.9	46.6	43.1	39.5	35.9	32.3	25.1	18.0	14.4	10.8
82.5°	35.9	32.3	28.8	25.1	21.5	18.0	14.4	14.4	10.8	7.1	3.6
85°	18.0	14.4	10.8	10.8	7.1	7.1	7.1	3.6	3.6	3.6	3.6
87.5°	7.1	3.6	3.6	3.6	3.6	3.6	3.6	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°	2401.8	2401.8	2401.8	2401.8	2401.8	2401.8	2401.8	2401.8	2401.8	2401.8	2401.8
2.5°	2391.1	2387.4	2383.9	2380.3	2380.3	2373.2	2373.2	2369.6	2362.3	2358.8	2358.8
5°	2369.6	2358.8	2351.6	2348.1	2344.4	2333.7	2330.1	2322.9	2315.7	2308.5	2304.9
7.5°	2337.2	2319.3	2312.0	2308.5	2297.8	2286.9	2279.8	2269.0	2258.3	2247.5	2243.9
10°	2297.8	2279.8	2261.8	2254.7	2243.9	2236.8	2222.4	2208.0	2197.3	2186.5	2175.6
12.5°	2247.5	2225.9	2208.0	2200.8	2190.0	2175.6	2154.1	2147.0	2129.0	2121.9	2107.5
15°	2190.0	2164.9	2147.0	2136.2	2125.4	2103.8	2089.5	2075.1	2057.2	2050.0	2035.7
17.5°	2118.2	2089.5	2071.6	2060.8	2053.6	2035.7	2014.1	1996.2	1978.2	1971.1	1960.3
20°	2032.1	2014.1	1988.9	1978.2	1971.1	1949.5	1927.9	1920.8	1906.4	1892.0	1881.3
22.5°	1935.2	1917.2	1892.0	1881.3	1877.6	1859.8	1841.8	1831.0	1820.2	1809.5	1798.7
25°	1834.6	1813.1	1791.5	1784.4	1777.1	1762.9	1748.5	1741.2	1730.5	1723.3	1716.1
27.5°	1726.8	1705.3	1687.5	1676.6	1669.4	1658.7	1651.4	1644.3	1637.2	1629.9	1626.3
30°	1612.1	1590.4	1576.2	1568.9	1561.8	1558.2	1547.4	1543.8	1540.2	1533.0	1536.7
32.5°	1497.1	1479.1	1464.8	1454.0	1454.0	1446.9	1443.2	1443.2	1439.6	1439.6	1439.6
35°	1371.5	1360.7	1350.0	1346.3	1342.7	1339.2	1335.6	1339.2	1335.6	1339.2	1342.7
37.5°	1256.6	1245.8	1238.7	1235.0	1231.4	1235.0	1231.4	1231.4	1235.0	1242.2	1245.8
40°	1138.1	1130.9	1123.8	1127.4	1123.8	1123.8	1123.8	1134.5	1138.1	1141.6	1145.3
42.5°	1026.8	1019.6	1016.0	1016.0	1019.6	1016.0	1023.2	1026.8	1034.0	1044.7	1052.0
45°	919.1	915.6	915.6	919.1	915.6	922.7	922.7	929.8	940.7	947.8	955.0
47.5°	818.5	818.5	818.5	822.2	822.2	825.8	832.9	836.5	843.7	850.9	858.0
50°	725.2	728.9	732.4	732.4	732.4	739.6	746.8	750.4	753.9	757.5	768.3
52.5°	642.6	646.2	646.2	649.8	653.5	657.0	660.6	667.7	671.4	678.6	682.1
55°	563.7	563.7	570.8	574.4	574.4	574.4	581.6	581.6	588.8	592.3	599.6
57.5°	488.3	491.9	491.9	495.4	495.4	499.0	502.7	506.2	509.8	513.4	517.0
60°	416.5	416.5	416.5	420.0	423.6	427.3	423.6	430.8	430.8	438.0	441.6
62.5°	348.2	351.9	351.9	351.9	351.9	351.9	351.9	355.4	359.0	362.6	366.2
65°	283.6	283.6	283.6	280.1	283.6	280.1	283.6	287.2	287.2	290.8	294.4
67.5°	219.0	219.0	211.8	211.8	215.4	215.4	215.4	215.4	211.8	219.0	219.0
70°	157.9	154.4	150.8	147.2	147.2	143.6	143.6	140.0	140.0	140.0	140.0
72.5°	104.2	96.9	89.8	86.2	82.5	82.5	75.4	71.8	75.4	75.4	75.4
75°	53.9	46.6	43.1	39.5	35.9	35.9	32.3	32.3	32.3	32.3	32.3
77.5°	21.5	18.0	14.4	14.4	10.8	10.8	10.8	10.8	10.8	10.8	10.8
80°	7.1	7.1	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
82.5°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
85°	3.6	0.0	0.0	3.6	0.0	3.6	3.6	3.6	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: P584827

CATALOG NUMBER: HC850D010-HM82555835-81WWBB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2401.8	2401.8	2401.8	2401.8	2401.8	2401.8	2401.8	2401.8
2.5°	2355.2	2355.2	2351.6	2355.2	2348.1	2351.6	2348.1	2348.1
5°	2301.3	2294.2	2294.2	2294.2	2290.5	2290.5	2286.9	2286.9
7.5°	2236.8	2233.1	2229.5	2225.9	2222.4	2218.8	2218.8	2218.8
10°	2172.1	2164.9	2164.9	2161.4	2154.1	2150.5	2150.5	2150.5
12.5°	2096.7	2093.1	2089.5	2089.5	2075.1	2078.7	2075.1	2075.1
15°	2024.9	2021.3	2021.3	2010.6	2003.3	2003.3	2003.3	1999.8
17.5°	1949.5	1945.9	1942.3	1935.2	1927.9	1927.9	1924.4	1927.9
20°	1870.5	1866.9	1859.8	1859.8	1856.1	1852.5	1845.4	1849.0
22.5°	1791.5	1784.4	1780.7	1780.7	1777.1	1777.1	1770.0	1770.0
25°	1709.0	1705.3	1701.7	1705.3	1698.2	1698.2	1691.0	1691.0
27.5°	1622.8	1619.2	1619.2	1619.2	1615.6	1619.2	1615.6	1615.6
30°	1536.7	1536.7	1533.0	1533.0	1536.7	1533.0	1536.7	1540.2
32.5°	1443.2	1443.2	1446.9	1446.9	1450.5	1450.5	1450.5	1450.5
35°	1346.3	1353.5	1353.5	1357.1	1360.7	1364.3	1364.3	1367.8
37.5°	1256.6	1260.2	1263.8	1267.3	1274.6	1274.6	1274.6	1274.6
40°	1159.6	1163.3	1170.4	1166.8	1181.2	1184.8	1181.2	1181.2
42.5°	1059.1	1066.2	1069.9	1077.1	1080.6	1087.9	1091.4	1091.4
45°	965.8	969.3	976.6	983.7	987.3	998.1	998.1	998.1
47.5°	868.8	876.0	879.6	886.8	890.4	901.2	904.7	901.2
50°	775.5	782.6	789.9	789.9	800.6	804.2	811.4	815.0
52.5°	685.7	689.4	696.5	700.1	707.2	714.5	718.0	721.6
55°	599.6	603.2	610.3	610.3	621.1	624.7	631.8	631.8
57.5°	520.6	524.2	531.3	527.8	534.9	542.1	542.1	538.6
60°	445.2	445.2	445.2	452.4	455.9	459.5	463.2	463.2
62.5°	366.2	373.4	377.0	377.0	380.5	384.1	384.1	380.5
65°	294.4	301.6	305.2	305.2	308.7	308.7	308.7	312.4
67.5°	222.6	222.6	222.6	226.2	222.6	222.6	222.6	222.6
70°	140.0	140.0	140.0	140.0	136.4	140.0	140.0	143.6
72.5°	75.4	75.4	75.4	75.4	75.4	75.4	75.4	75.4
75°	32.3	32.3	32.3	35.9	32.3	32.3	32.3	32.3
77.5°	14.4	10.8	14.4	14.4	10.8	10.8	10.8	10.8
80°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
82.5°	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
85°	0.0	3.6	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



Report Generated By 670245859 / DESKTOP-HRDQ47P





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













(END OF REPORT)