

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: P584880

Luminaire Tested: **HC850D010-HM82555930-81WWWB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584880
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-HM82555930-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4716.0 lumens
Efficiency: N/A
Efficacy: 98.2 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

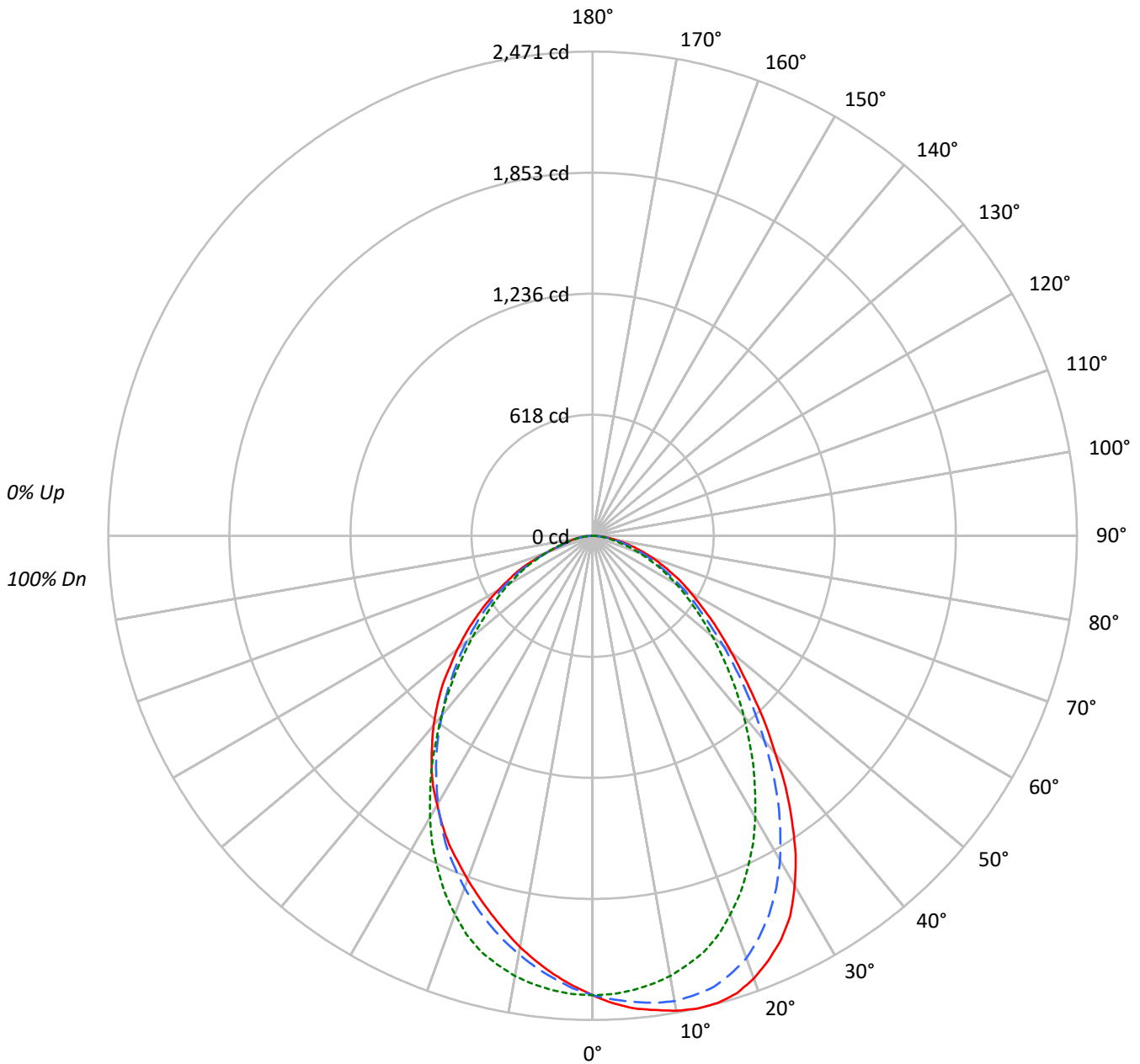
Input Watts (W): 48
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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	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°	72305	72305	72305
5°	74955	72067	69591
10°	77071	71438	66748
15°	78792	70179	63797
20°	78911	67439	61210
25°	77401	63686	59042
30°	73414	59061	56451
35°	66706	53790	53918
40°	58324	48264	50813
45°	50547	42994	47351
50°	44260	38191	43142
55°	39391	33843	39036
60°	35536	30405	34302
65°	32083	26734	29894
70°	28824	22522	22215
75°	25389	17859	16668
80°	21292	14775	15964
85°	16487	12949	14152



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	221.2	4.7
10°-20°	623.0	13.2
20°-30°	890.4	18.9
30°-40°	946.1	20.1
40°-50°	814.6	17.3
50°-60°	609.0	12.9
60°-70°	388.5	8.2
70°-80°	176.8	3.7
80°-90°	46.4	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°	1734.7	36.8
0°-40°	2680.8	56.8
0°-60°	4104.4	87.0
0°-90°	4716.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4716.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2345	2345	2345	2345	2345	
5°	2422	2388	2328	2268	2248	232
15°	2468	2385	2198	2048	1998	695
25°	2275	2132	1872	1759	1735	1041
35°	1772	1649	1429	1392	1432	1104
45°	1159	1096	986	1013	1086	901
55°	733	673	630	683	726	659
65°	440	390	366	383	410	438
75°	213	183	150	136	140	226
85°	47	40	37	40	40	56
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°	2344.8	2344.8	2344.8	2344.8	2344.8	2344.8	2344.8	2344.8	2344.8	2344.8	2344.8
2.5°	2388.2	2381.5	2384.8	2381.5	2384.8	2384.8	2378.1	2378.1	2378.1	2378.1	2368.2
5°	2421.5	2418.1	2418.1	2414.8	2411.4	2414.8	2411.4	2408.1	2401.5	2398.1	2388.2
7.5°	2441.5	2441.5	2441.5	2441.5	2438.1	2434.8	2431.4	2424.7	2418.1	2411.4	2404.7
10°	2461.4	2464.7	2461.4	2458.1	2454.8	2448.1	2444.7	2438.1	2428.1	2418.1	2411.4
12.5°	2471.4	2471.4	2468.1	2468.1	2461.4	2458.1	2448.1	2438.1	2428.1	2418.1	2401.5
15°	2468.1	2468.1	2464.7	2461.4	2451.4	2448.1	2441.5	2431.4	2414.8	2401.5	2384.8
17.5°	2448.1	2444.7	2438.1	2438.1	2424.7	2421.5	2414.8	2401.5	2384.8	2364.8	2344.8
20°	2404.7	2404.7	2401.5	2398.1	2384.8	2374.8	2368.2	2351.4	2338.1	2314.9	2294.9
22.5°	2344.8	2351.4	2344.8	2338.1	2321.5	2318.1	2308.2	2288.2	2268.2	2241.6	2218.3
25°	2274.9	2271.6	2268.2	2261.5	2248.2	2241.6	2228.2	2208.2	2188.3	2158.3	2131.7
27.5°	2185.0	2171.7	2171.7	2158.3	2148.3	2138.3	2131.7	2111.7	2085.0	2061.8	2028.4
30°	2061.8	2065.0	2048.4	2045.0	2028.4	2021.8	2008.5	1988.5	1965.1	1938.4	1911.8
32.5°	1928.5	1918.4	1918.4	1905.1	1891.8	1881.9	1878.5	1855.2	1835.2	1808.6	1781.9
35°	1772.0	1772.0	1761.9	1758.6	1745.3	1738.7	1728.6	1715.3	1692.0	1668.6	1648.8
37.5°	1618.7	1612.1	1608.8	1602.1	1592.1	1582.1	1582.1	1558.7	1555.5	1528.8	1502.2
40°	1448.9	1455.5	1448.9	1438.9	1435.5	1428.9	1425.6	1412.3	1402.2	1379.0	1362.2
42.5°	1305.7	1299.0	1299.0	1295.6	1282.3	1282.3	1275.6	1268.9	1252.3	1245.7	1225.7
45°	1159.1	1165.7	1155.8	1159.1	1145.7	1145.7	1145.7	1132.4	1119.1	1109.1	1095.8
47.5°	1032.6	1035.9	1035.9	1025.9	1022.5	1022.5	1015.9	1009.2	999.3	985.9	975.9
50°	922.6	926.0	919.3	915.9	909.2	906.0	906.0	892.6	886.0	872.7	866.0
52.5°	822.7	822.7	819.4	819.4	809.4	809.4	802.8	792.7	786.0	779.4	762.8
55°	732.7	732.7	729.5	726.1	726.1	716.1	712.7	702.8	696.1	682.8	672.8
57.5°	646.1	649.5	646.1	642.8	639.4	636.2	629.5	619.6	612.9	602.9	596.2
60°	576.2	576.2	572.9	569.5	562.9	559.6	556.2	549.5	539.6	532.9	522.9
62.5°	509.6	506.3	502.9	499.6	493.0	493.0	486.3	479.6	469.6	462.9	456.3
65°	439.7	439.7	436.3	436.3	433.0	426.3	422.9	419.7	406.3	403.1	389.7
67.5°	376.4	379.7	373.0	373.0	366.4	366.4	363.1	353.0	349.8	343.1	336.4
70°	319.7	319.7	319.7	316.4	309.8	306.4	303.1	296.5	293.1	286.4	279.7
72.5°	263.1	263.1	259.8	259.8	256.5	253.1	249.8	243.2	243.2	236.5	229.8
75°	213.1	213.1	209.8	206.6	203.2	203.2	199.9	196.5	189.8	186.6	183.2
77.5°	163.2	163.2	163.2	159.9	156.5	156.5	156.5	149.9	143.2	143.2	139.9
80°	119.9	119.9	116.5	116.5	113.3	113.3	113.3	109.9	106.6	103.2	99.9
82.5°	80.0	80.0	80.0	80.0	76.6	76.6	76.6	73.3	69.9	69.9	69.9
85°	46.6	46.6	46.6	46.6	43.3	43.3	43.3	43.3	43.3	40.0	40.0
87.5°	20.0	16.6	20.0	16.6	20.0	16.6	20.0	16.6	16.6	16.6	16.6
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°	2344.8	2344.8	2344.8	2344.8	2344.8	2344.8	2344.8	2344.8	2344.8	2344.8	2344.8
2.5°	2371.4	2368.2	2364.8	2361.5	2361.5	2358.1	2351.4	2348.2	2344.8	2341.5	2341.5
5°	2384.8	2381.5	2374.8	2368.2	2364.8	2358.1	2351.4	2344.8	2338.1	2328.2	2324.8
7.5°	2394.8	2384.8	2378.1	2364.8	2361.5	2354.8	2344.8	2334.8	2321.5	2308.2	2298.1
10°	2394.8	2381.5	2371.4	2354.8	2348.2	2341.5	2328.2	2311.5	2294.9	2281.5	2264.9
12.5°	2388.2	2371.4	2354.8	2338.1	2328.2	2318.1	2298.1	2281.5	2261.5	2241.6	2228.2
15°	2364.8	2344.8	2324.8	2304.8	2294.9	2281.5	2261.5	2238.3	2218.3	2198.3	2174.9
17.5°	2321.5	2301.5	2278.3	2254.9	2241.6	2231.6	2201.6	2185.0	2154.9	2134.9	2115.0
20°	2264.9	2241.6	2211.6	2188.3	2171.7	2161.6	2138.3	2108.3	2085.0	2055.1	2035.1
22.5°	2191.6	2161.6	2131.7	2108.3	2091.7	2078.4	2048.4	2018.4	1998.4	1971.8	1948.5
25°	2105.0	2075.1	2045.0	2011.7	1995.1	1981.8	1955.2	1928.5	1901.8	1871.8	1851.9
27.5°	2001.8	1968.5	1941.8	1911.8	1895.2	1875.2	1845.3	1818.6	1792.0	1772.0	1745.3
30°	1888.5	1851.9	1825.3	1795.2	1778.6	1761.9	1732.0	1705.3	1682.0	1658.7	1645.4
32.5°	1752.0	1725.3	1698.7	1668.6	1655.4	1645.4	1615.4	1588.8	1562.1	1542.1	1532.1
35°	1622.1	1592.1	1568.8	1542.1	1525.4	1515.5	1488.8	1465.5	1452.2	1428.9	1415.5
37.5°	1485.4	1462.2	1435.5	1408.9	1398.9	1388.9	1368.9	1345.6	1325.6	1308.9	1302.3
40°	1342.2	1322.3	1299.0	1282.3	1272.3	1262.3	1245.7	1229.1	1215.8	1199.0	1192.4
42.5°	1205.7	1192.4	1172.4	1152.4	1142.5	1139.1	1119.1	1105.8	1099.1	1092.4	1085.8
45°	1082.5	1062.5	1049.2	1035.9	1025.9	1019.3	1009.2	999.3	992.6	985.9	979.3
47.5°	962.6	946.0	932.6	922.6	912.6	909.2	902.6	892.6	886.0	886.0	886.0
50°	852.7	839.3	826.0	819.4	816.1	809.4	802.8	799.4	796.1	796.1	796.1
52.5°	756.1	742.8	732.7	726.1	726.1	719.4	712.7	709.5	709.5	709.5	709.5
55°	666.1	656.2	649.5	642.8	636.2	632.8	632.8	632.8	629.5	629.5	632.8
57.5°	586.3	579.6	569.5	562.9	559.6	559.6	556.2	552.9	556.2	559.6	562.9
60°	513.0	506.3	502.9	493.0	493.0	493.0	489.6	489.6	489.6	493.0	496.2
62.5°	446.3	442.9	436.3	433.0	429.6	429.6	426.3	426.3	426.3	426.3	429.6
65°	386.4	379.7	373.0	373.0	373.0	369.8	369.8	363.1	366.4	366.4	363.1
67.5°	329.8	323.1	319.7	316.4	313.1	313.1	309.8	306.4	303.1	303.1	303.1
70°	276.5	269.8	269.8	263.1	263.1	259.8	256.5	256.5	253.1	249.8	246.4
72.5°	223.2	219.8	216.5	213.1	213.1	213.1	209.8	206.6	203.2	199.9	193.2
75°	176.5	176.5	169.9	166.6	166.6	163.2	159.9	156.5	153.3	149.9	146.6
77.5°	136.5	133.3	126.6	123.2	123.2	123.2	119.9	116.5	113.3	109.9	106.6
80°	99.9	96.6	93.3	89.9	89.9	89.9	86.6	86.6	83.2	83.2	83.2
82.5°	66.6	66.6	63.2	63.2	63.2	63.2	60.0	60.0	60.0	60.0	60.0
85°	40.0	40.0	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6	36.6
87.5°	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6
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°	2344.8	2344.8	2344.8	2344.8	2344.8	2344.8	2344.8	2344.8	2344.8	2344.8	2344.8
2.5°	2334.8	2334.8	2328.2	2324.8	2321.5	2324.8	2318.1	2314.9	2311.5	2311.5	2308.2
5°	2314.9	2311.5	2298.1	2294.9	2291.5	2288.2	2281.5	2274.9	2268.2	2264.9	2261.5
7.5°	2288.2	2278.3	2264.9	2261.5	2258.3	2248.2	2238.3	2231.6	2221.6	2218.3	2211.6
10°	2251.6	2238.3	2228.2	2218.3	2211.6	2201.6	2191.6	2181.6	2168.3	2165.0	2154.9
12.5°	2208.2	2191.6	2171.7	2168.3	2158.3	2145.0	2131.7	2121.6	2111.7	2105.0	2095.0
15°	2154.9	2138.3	2118.3	2108.3	2098.4	2088.3	2071.7	2058.4	2048.4	2038.4	2028.4
17.5°	2091.7	2071.7	2055.1	2045.0	2038.4	2021.8	2008.5	1991.7	1981.8	1971.8	1961.8
20°	2015.1	1998.4	1975.1	1965.1	1961.8	1948.5	1931.8	1925.1	1911.8	1901.8	1895.2
22.5°	1928.5	1911.8	1891.8	1885.1	1871.8	1865.3	1848.5	1841.9	1835.2	1825.3	1821.9
25°	1831.9	1815.2	1798.6	1795.2	1785.3	1778.6	1768.6	1758.6	1758.6	1748.6	1748.6
27.5°	1732.0	1715.3	1701.9	1695.3	1692.0	1685.3	1675.3	1672.0	1668.6	1665.4	1665.4
30°	1625.4	1605.4	1598.7	1595.5	1592.1	1585.4	1582.1	1575.5	1578.7	1582.1	1578.7
32.5°	1512.1	1505.4	1492.1	1485.4	1488.8	1485.4	1478.8	1485.4	1482.2	1488.8	1492.1
35°	1402.2	1395.6	1388.9	1388.9	1382.2	1382.2	1382.2	1385.6	1392.3	1395.6	1402.2
37.5°	1295.6	1285.7	1282.3	1279.0	1282.3	1282.3	1282.3	1288.9	1295.6	1302.3	1312.3
40°	1182.4	1175.8	1175.8	1175.8	1175.8	1185.7	1182.4	1189.1	1195.8	1205.7	1215.8
42.5°	1075.8	1075.8	1079.1	1079.1	1079.1	1079.1	1085.8	1095.8	1105.8	1115.8	1125.7
45°	975.9	975.9	975.9	982.5	982.5	985.9	999.3	1005.9	1012.6	1022.5	1032.6
47.5°	882.6	882.6	886.0	889.3	892.6	899.3	906.0	915.9	926.0	932.6	942.6
50°	796.1	799.4	806.0	812.7	812.7	816.1	826.0	832.7	839.3	849.3	852.7
52.5°	712.7	719.4	726.1	729.5	732.7	739.4	742.8	752.7	756.1	766.0	769.4
55°	636.2	639.4	649.5	652.8	652.8	659.4	666.1	672.8	682.8	682.8	689.5
57.5°	566.3	569.5	576.2	579.6	576.2	586.3	589.5	596.2	599.6	606.2	609.5
60°	496.2	502.9	506.3	506.3	509.6	513.0	519.6	519.6	526.3	532.9	532.9
62.5°	429.6	433.0	436.3	439.7	442.9	439.7	449.6	449.6	456.3	459.7	466.3
65°	366.4	369.8	369.8	373.0	373.0	376.4	376.4	379.7	383.1	389.7	393.0
67.5°	303.1	303.1	303.1	306.4	303.1	306.4	306.4	309.8	309.8	316.4	319.7
70°	246.4	243.2	239.8	239.8	239.8	239.8	236.5	239.8	239.8	243.2	243.2
72.5°	189.8	186.6	183.2	179.9	179.9	176.5	173.2	176.5	176.5	179.9	179.9
75°	143.2	136.5	136.5	136.5	133.3	133.3	133.3	136.5	136.5	136.5	139.9
77.5°	106.6	106.6	103.2	103.2	103.2	106.6	106.6	109.9	109.9	109.9	109.9
80°	80.0	83.2	83.2	83.2	83.2	86.6	86.6	86.6	86.6	89.9	89.9
82.5°	60.0	60.0	60.0	60.0	63.2	63.2	63.2	63.2	63.2	63.2	63.2
85°	36.6	40.0	40.0	36.6	40.0	40.0	40.0	40.0	40.0	40.0	40.0
87.5°	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6
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: P584880

CATALOG NUMBER: HC850D010-HM82555930-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2344.8	2344.8	2344.8	2344.8	2344.8	2344.8	2344.8	2344.8
2.5°	2304.8	2304.8	2304.8	2304.8	2301.5	2301.5	2301.5	2298.1
5°	2254.9	2254.9	2254.9	2248.2	2251.6	2251.6	2244.9	2248.2
7.5°	2205.0	2201.6	2198.3	2198.3	2194.9	2191.6	2188.3	2191.6
10°	2148.3	2138.3	2138.3	2134.9	2134.9	2128.3	2128.3	2131.7
12.5°	2085.0	2078.4	2078.4	2075.1	2071.7	2068.4	2065.0	2065.0
15°	2021.8	2015.1	2011.7	2008.5	2005.1	1998.4	2001.8	1998.4
17.5°	1958.4	1948.5	1948.5	1945.1	1941.8	1935.2	1935.2	1931.8
20°	1885.1	1881.9	1875.2	1878.5	1875.2	1868.5	1865.3	1865.3
22.5°	1812.0	1812.0	1808.6	1808.6	1805.3	1801.9	1798.6	1798.6
25°	1741.9	1738.7	1741.9	1741.9	1732.0	1732.0	1732.0	1735.3
27.5°	1662.1	1665.4	1662.1	1662.1	1662.1	1662.1	1665.4	1662.1
30°	1582.1	1582.1	1582.1	1585.4	1592.1	1588.8	1588.8	1585.4
32.5°	1495.5	1498.8	1498.8	1502.2	1505.4	1512.1	1512.1	1515.5
35°	1408.9	1415.5	1418.9	1415.5	1425.6	1425.6	1432.3	1432.3
37.5°	1319.0	1322.3	1328.9	1332.3	1339.0	1342.2	1345.6	1345.6
40°	1222.4	1235.7	1239.0	1242.4	1252.3	1252.3	1255.6	1262.3
42.5°	1132.4	1145.7	1149.1	1152.4	1159.1	1169.1	1165.7	1172.4
45°	1045.8	1055.8	1059.1	1062.5	1072.4	1075.8	1075.8	1085.8
47.5°	952.6	959.3	962.6	969.2	975.9	982.5	989.2	985.9
50°	859.3	869.3	875.9	879.3	889.3	892.6	895.9	899.3
52.5°	776.1	782.8	786.0	789.4	799.4	802.8	806.0	812.7
55°	696.1	699.4	706.1	702.8	712.7	716.1	719.4	726.1
57.5°	616.2	619.6	622.8	622.8	629.5	636.2	639.4	642.8
60°	539.6	546.3	549.5	549.5	549.5	556.2	556.2	556.2
62.5°	469.6	469.6	473.0	473.0	479.6	479.6	479.6	479.6
65°	396.4	399.7	403.1	403.1	409.7	406.3	413.0	409.7
67.5°	319.7	319.7	326.4	326.4	323.1	326.4	326.4	326.4
70°	243.2	243.2	246.4	246.4	246.4	246.4	246.4	246.4
72.5°	179.9	179.9	179.9	183.2	179.9	179.9	183.2	179.9
75°	139.9	139.9	139.9	139.9	139.9	139.9	139.9	139.9
77.5°	109.9	109.9	113.3	113.3	113.3	113.3	113.3	113.3
80°	89.9	89.9	89.9	89.9	93.3	89.9	89.9	89.9
82.5°	66.6	63.2	66.6	63.2	66.6	66.6	66.6	66.6
85°	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
87.5°	16.6	16.6	16.6	16.6	16.6	16.6	16.6	16.6
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)