

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: P584778

Luminaire Tested: **HC845D010-HM82555940-81WWWB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584778
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-HM82555940-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4975.7 lumens
Efficiency: N/A
Efficacy: 113.1 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

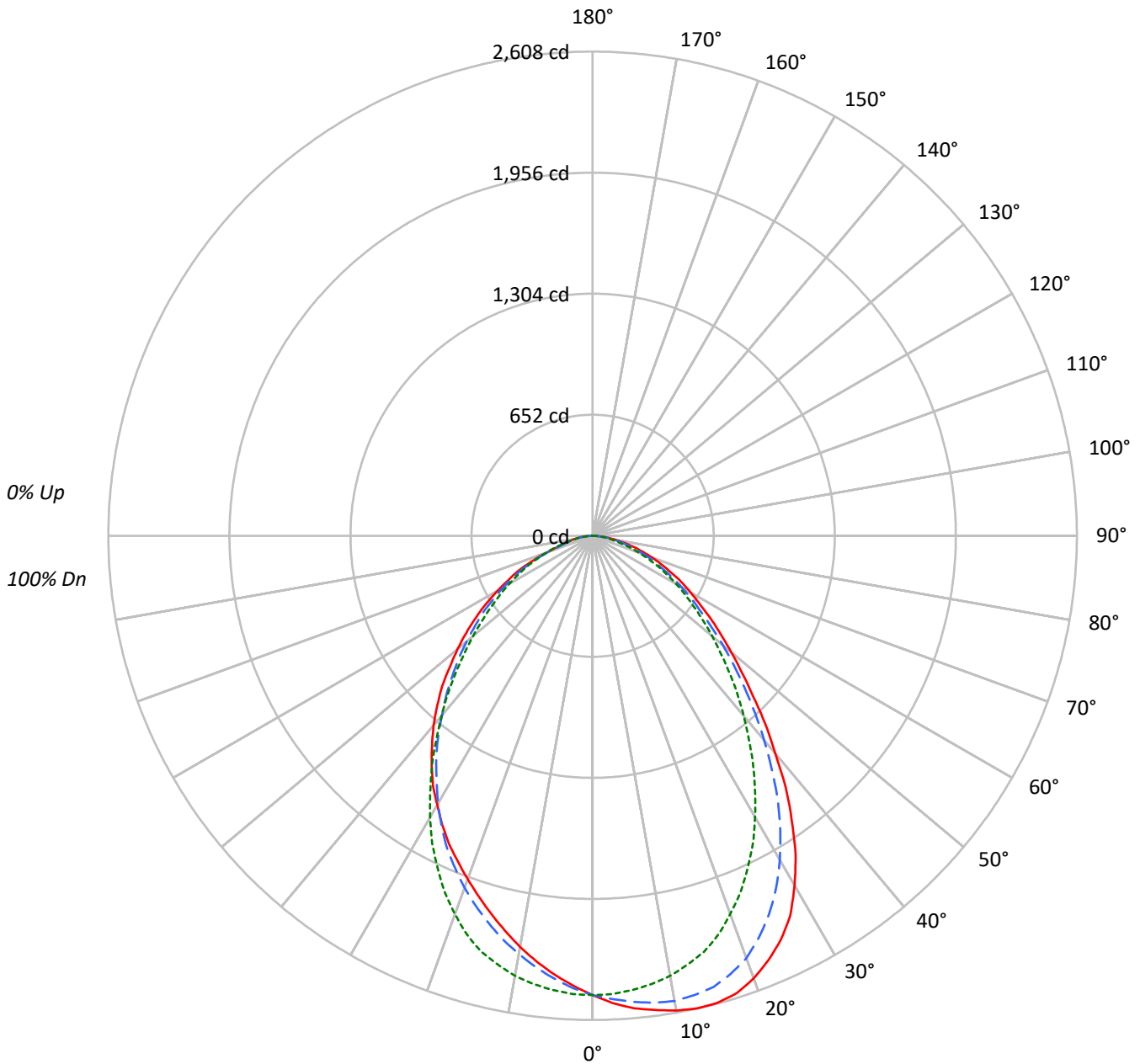
Input Watts (W): 44
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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°	76289	76289	76289
5°	79082	76036	73423
10°	81314	75371	70421
15°	83127	74045	67312
20°	83259	71150	64577
25°	81665	67198	62291
30°	77452	62312	59559
35°	70376	56749	56884
40°	61536	50925	53610
45°	53334	45362	49959
50°	46697	40292	45517
55°	41563	35708	41187
60°	37497	32076	36196
65°	33848	28201	31543
70°	30420	23766	23450
75°	26795	18836	17585
80°	22482	15609	16852
85°	17372	13692	14931



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	233.4	4.7
10°-20°	657.4	13.2
20°-30°	939.4	18.9
30°-40°	998.2	20.1
40°-50°	859.4	17.3
50°-60°	642.6	12.9
60°-70°	409.8	8.2
70°-80°	186.5	3.7
80°-90°	49.0	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°	1830.2	36.8
0°-40°	2828.4	56.8
0°-60°	4330.4	87.0
0°-90°	4975.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4975.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2474	2474	2474	2474	2474	
5°	2555	2520	2456	2393	2372	245
15°	2604	2516	2319	2161	2108	733
25°	2400	2249	1975	1856	1831	1099
35°	1870	1739	1508	1469	1511	1164
45°	1223	1156	1040	1068	1146	951
55°	773	710	664	720	766	695
65°	464	411	386	404	432	463
75°	225	193	158	144	148	239
85°	49	42	39	42	42	59
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°	2474.0	2474.0	2474.0	2474.0	2474.0	2474.0	2474.0	2474.0	2474.0	2474.0	2474.0
2.5°	2519.6	2512.6	2516.1	2512.6	2516.1	2516.1	2509.0	2509.0	2509.0	2509.0	2498.5
5°	2554.8	2551.3	2551.3	2547.8	2544.2	2547.8	2544.2	2540.7	2533.7	2530.2	2519.6
7.5°	2575.8	2575.8	2575.8	2575.8	2572.4	2568.9	2565.4	2558.3	2551.3	2544.2	2537.2
10°	2596.9	2600.4	2596.9	2593.4	2589.9	2582.8	2579.3	2572.4	2561.8	2551.3	2544.2
12.5°	2607.5	2607.5	2603.9	2603.9	2596.9	2593.4	2582.8	2572.4	2561.8	2551.3	2533.7
15°	2603.9	2603.9	2600.4	2596.9	2586.3	2582.8	2575.8	2565.4	2547.8	2533.7	2516.1
17.5°	2582.8	2579.3	2572.4	2572.4	2558.3	2554.8	2547.8	2533.7	2516.1	2495.0	2474.0
20°	2537.2	2537.2	2533.7	2530.2	2516.1	2505.5	2498.5	2481.0	2466.9	2442.3	2421.2
22.5°	2474.0	2481.0	2474.0	2466.9	2449.3	2445.8	2435.3	2414.2	2393.2	2365.0	2340.4
25°	2400.2	2396.7	2393.2	2386.1	2372.0	2365.0	2350.9	2329.8	2308.8	2277.1	2249.0
27.5°	2305.3	2291.2	2291.2	2277.1	2266.6	2256.0	2249.0	2228.0	2199.8	2175.2	2140.1
30°	2175.2	2178.7	2161.1	2157.6	2140.1	2133.1	2119.0	2097.9	2073.3	2045.2	2017.1
32.5°	2034.7	2024.1	2024.1	2010.1	1996.0	1985.4	1982.0	1957.4	1936.3	1908.1	1880.1
35°	1869.5	1869.5	1859.0	1855.5	1841.4	1834.3	1823.8	1809.8	1785.2	1760.6	1739.4
37.5°	1707.9	1700.8	1697.3	1690.3	1679.7	1669.2	1669.2	1644.7	1641.1	1613.0	1584.8
40°	1528.7	1535.7	1528.7	1518.1	1514.6	1507.5	1504.0	1489.9	1479.4	1454.9	1437.3
42.5°	1377.6	1370.5	1370.5	1367.0	1352.9	1352.9	1345.9	1338.9	1321.3	1314.2	1293.2
45°	1223.0	1229.9	1219.5	1223.0	1208.9	1208.9	1208.9	1194.8	1180.7	1170.2	1156.1
47.5°	1089.4	1092.9	1092.9	1082.3	1078.8	1078.8	1071.8	1064.7	1054.3	1040.2	1029.7
50°	973.4	976.9	970.0	966.4	959.4	955.9	955.9	941.8	934.8	920.7	913.6
52.5°	868.0	868.0	864.5	864.5	853.9	853.9	846.9	836.3	829.3	822.3	804.7
55°	773.1	773.1	769.6	766.1	766.1	755.5	752.0	741.5	734.4	720.3	709.9
57.5°	681.7	685.3	681.7	678.2	674.7	671.2	664.2	653.6	646.6	636.0	629.1
60°	608.0	608.0	604.4	600.9	593.9	590.4	586.9	579.8	569.3	562.2	551.7
62.5°	537.7	534.2	530.7	527.1	520.1	520.1	513.1	506.0	495.5	488.4	481.4
65°	463.9	463.9	460.4	460.4	456.9	449.8	446.3	442.8	428.7	425.2	411.1
67.5°	397.1	400.6	393.5	393.5	386.5	386.5	383.0	372.5	369.0	362.0	354.9
70°	337.4	337.4	337.4	333.8	326.8	323.3	319.8	312.7	309.2	302.2	295.2
72.5°	277.6	277.6	274.1	274.1	270.6	267.1	263.6	256.5	256.5	249.5	242.5
75°	224.9	224.9	221.3	217.8	214.3	214.3	210.9	207.4	200.3	196.8	193.3
77.5°	172.2	172.2	172.2	168.7	165.2	165.2	165.2	158.1	151.1	151.1	147.6
80°	126.6	126.6	123.0	123.0	119.5	119.5	119.5	116.0	112.5	109.0	105.5
82.5°	84.3	84.3	84.3	84.3	80.8	80.8	80.8	77.3	73.8	73.8	73.8
85°	49.1	49.1	49.1	49.1	45.6	45.6	45.6	45.6	45.6	42.2	42.2
87.5°	21.1	17.6	21.1	17.6	21.1	17.6	21.1	17.6	17.6	17.6	17.6
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°	2474.0	2474.0	2474.0	2474.0	2474.0	2474.0	2474.0	2474.0	2474.0	2474.0	2474.0
2.5°	2502.0	2498.5	2495.0	2491.5	2491.5	2488.1	2481.0	2477.5	2474.0	2470.5	2470.5
5°	2516.1	2512.6	2505.5	2498.5	2495.0	2488.1	2481.0	2474.0	2466.9	2456.4	2452.9
7.5°	2526.6	2516.1	2509.0	2495.0	2491.5	2484.5	2474.0	2463.4	2449.3	2435.3	2424.7
10°	2526.6	2512.6	2502.0	2484.5	2477.5	2470.5	2456.4	2438.8	2421.2	2407.1	2389.6
12.5°	2519.6	2502.0	2484.5	2466.9	2456.4	2445.8	2424.7	2407.1	2386.1	2365.0	2350.9
15°	2495.0	2474.0	2452.9	2431.7	2421.2	2407.1	2386.1	2361.5	2340.4	2319.4	2294.7
17.5°	2449.3	2428.2	2403.7	2379.1	2365.0	2354.4	2322.8	2305.3	2273.6	2252.5	2231.5
20°	2389.6	2365.0	2333.3	2308.8	2291.2	2280.7	2256.0	2224.5	2199.8	2168.2	2147.2
22.5°	2312.3	2280.7	2249.0	2224.5	2206.9	2192.8	2161.1	2129.6	2108.5	2080.3	2055.8
25°	2221.0	2189.3	2157.6	2122.5	2104.9	2090.9	2062.8	2034.7	2006.5	1975.0	1953.9
27.5°	2112.0	2076.8	2048.8	2017.1	1999.5	1978.5	1946.8	1918.7	1890.6	1869.5	1841.4
30°	1992.5	1953.9	1925.7	1894.2	1876.6	1859.0	1827.3	1799.3	1774.6	1750.0	1735.9
32.5°	1848.4	1820.3	1792.2	1760.6	1746.5	1735.9	1704.4	1676.2	1648.1	1627.1	1616.5
35°	1711.4	1679.7	1655.1	1627.1	1609.5	1598.9	1570.8	1546.2	1532.2	1507.5	1493.5
37.5°	1567.2	1542.7	1514.6	1486.4	1476.0	1465.4	1444.3	1419.7	1398.6	1381.1	1374.1
40°	1416.2	1395.0	1370.5	1352.9	1342.4	1331.8	1314.2	1296.8	1282.7	1265.1	1258.0
42.5°	1272.1	1258.0	1236.9	1215.9	1205.4	1201.9	1180.7	1166.7	1159.6	1152.6	1145.6
45°	1142.0	1121.0	1107.0	1092.9	1082.3	1075.3	1064.7	1054.3	1047.3	1040.2	1033.2
47.5°	1015.6	998.0	983.9	973.4	962.9	959.4	952.4	941.8	934.8	934.8	934.8
50°	899.6	885.6	871.5	864.5	861.0	853.9	846.9	843.4	839.9	839.9	839.9
52.5°	797.8	783.7	773.1	766.1	766.1	759.0	752.0	748.5	748.5	748.5	748.5
55°	702.9	692.3	685.3	678.2	671.2	667.7	667.7	667.7	664.2	664.2	667.7
57.5°	618.5	611.5	600.9	593.9	590.4	590.4	586.9	583.3	586.9	590.4	593.9
60°	541.2	534.2	530.7	520.1	520.1	520.1	516.6	516.6	516.6	520.1	523.6
62.5°	470.8	467.3	460.4	456.9	453.4	453.4	449.8	449.8	449.8	449.8	453.4
65°	407.6	400.6	393.5	393.5	393.5	390.0	390.0	383.0	386.5	386.5	383.0
67.5°	347.9	340.9	337.4	333.8	330.3	330.3	326.8	323.3	319.8	319.8	319.8
70°	291.7	284.7	284.7	277.6	277.6	274.1	270.6	270.6	267.1	263.6	260.1
72.5°	235.4	231.9	228.4	224.9	224.9	224.9	221.3	217.8	214.3	210.9	203.9
75°	186.3	186.3	179.2	175.7	175.7	172.2	168.7	165.2	161.6	158.1	154.6
77.5°	144.0	140.5	133.5	130.0	130.0	130.0	126.6	123.0	119.5	116.0	112.5
80°	105.5	101.9	98.4	94.9	94.9	94.9	91.4	91.4	87.9	87.9	87.9
82.5°	70.3	70.3	66.7	66.7	66.7	66.7	63.2	63.2	63.2	63.2	63.2
85°	42.2	42.2	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7	38.7
87.5°	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6
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°	2474.0	2474.0	2474.0	2474.0	2474.0	2474.0	2474.0	2474.0	2474.0	2474.0	2474.0
2.5°	2463.4	2463.4	2456.4	2452.9	2449.3	2452.9	2445.8	2442.3	2438.8	2438.8	2435.3
5°	2442.3	2438.8	2424.7	2421.2	2417.7	2414.2	2407.1	2400.2	2393.2	2389.6	2386.1
7.5°	2414.2	2403.7	2389.6	2386.1	2382.6	2372.0	2361.5	2354.4	2343.9	2340.4	2333.3
10°	2375.6	2361.5	2350.9	2340.4	2333.3	2322.8	2312.3	2301.8	2287.7	2284.2	2273.6
12.5°	2329.8	2312.3	2291.2	2287.7	2277.1	2263.1	2249.0	2238.4	2228.0	2221.0	2210.4
15°	2273.6	2256.0	2235.0	2224.5	2213.9	2203.4	2185.8	2171.7	2161.1	2150.7	2140.1
17.5°	2206.9	2185.8	2168.2	2157.6	2150.7	2133.1	2119.0	2101.4	2090.9	2080.3	2069.8
20°	2126.1	2108.5	2083.8	2073.3	2069.8	2055.8	2038.2	2031.2	2017.1	2006.5	1999.5
22.5°	2034.7	2017.1	1996.0	1988.9	1975.0	1967.9	1950.3	1943.3	1936.3	1925.7	1922.2
25°	1932.8	1915.2	1897.7	1894.2	1883.6	1876.6	1866.0	1855.5	1855.5	1844.9	1844.9
27.5°	1827.3	1809.8	1795.7	1788.7	1785.2	1778.2	1767.6	1764.1	1760.6	1757.0	1757.0
30°	1714.9	1693.8	1686.8	1683.3	1679.7	1672.7	1669.2	1662.1	1665.7	1669.2	1665.7
32.5°	1595.4	1588.4	1574.3	1567.2	1570.8	1567.2	1560.3	1567.2	1563.7	1570.8	1574.3
35°	1479.4	1472.5	1465.4	1465.4	1458.4	1458.4	1458.4	1461.9	1468.9	1472.5	1479.4
37.5°	1367.0	1356.5	1352.9	1349.4	1352.9	1352.9	1352.9	1360.0	1367.0	1374.1	1384.6
40°	1247.5	1240.4	1240.4	1240.4	1240.4	1251.0	1247.5	1254.5	1261.6	1272.1	1282.7
42.5°	1135.1	1135.1	1138.6	1138.6	1138.6	1138.6	1145.6	1156.1	1166.7	1177.2	1187.8
45°	1029.7	1029.7	1029.7	1036.7	1036.7	1040.2	1054.3	1061.2	1068.3	1078.8	1089.4
47.5°	931.2	931.2	934.8	938.3	941.8	948.8	955.9	966.4	976.9	983.9	994.5
50°	839.9	843.4	850.4	857.5	857.5	861.0	871.5	878.6	885.6	896.1	899.6
52.5°	752.0	759.0	766.1	769.6	773.1	780.2	783.7	794.2	797.8	808.2	811.7
55°	671.2	674.7	685.3	688.8	688.8	695.8	702.9	709.9	720.3	720.3	727.4
57.5°	597.4	600.9	608.0	611.5	608.0	618.5	622.0	629.1	632.6	639.5	643.0
60°	523.6	530.7	534.2	534.2	537.7	541.2	548.3	548.3	555.2	562.2	562.2
62.5°	453.4	456.9	460.4	463.9	467.3	463.9	474.4	474.4	481.4	484.9	492.0
65°	386.5	390.0	390.0	393.5	393.5	397.1	397.1	400.6	404.1	411.1	414.7
67.5°	319.8	319.8	319.8	323.3	319.8	323.3	323.3	326.8	326.8	333.8	337.4
70°	260.1	256.5	253.0	253.0	253.0	253.0	249.5	253.0	253.0	256.5	256.5
72.5°	200.3	196.8	193.3	189.8	189.8	186.3	182.8	186.3	186.3	189.8	189.8
75°	151.1	144.0	144.0	144.0	140.5	140.5	140.5	144.0	144.0	144.0	147.6
77.5°	112.5	112.5	109.0	109.0	109.0	112.5	112.5	116.0	116.0	116.0	116.0
80°	84.3	87.9	87.9	87.9	87.9	91.4	91.4	91.4	91.4	94.9	94.9
82.5°	63.2	63.2	63.2	63.2	66.7	66.7	66.7	66.7	66.7	66.7	66.7
85°	38.7	42.2	42.2	38.7	42.2	42.2	42.2	42.2	42.2	42.2	42.2
87.5°	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6
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: P584778

CATALOG NUMBER: HC845D010-HM82555940-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2474.0	2474.0	2474.0	2474.0	2474.0	2474.0	2474.0	2474.0
2.5°	2431.7	2431.7	2431.7	2431.7	2428.2	2428.2	2428.2	2424.7
5°	2379.1	2379.1	2379.1	2372.0	2375.6	2375.6	2368.5	2372.0
7.5°	2326.3	2322.8	2319.4	2319.4	2315.9	2312.3	2308.8	2312.3
10°	2266.6	2256.0	2256.0	2252.5	2252.5	2245.5	2245.5	2249.0
12.5°	2199.8	2192.8	2192.8	2189.3	2185.8	2182.2	2178.7	2178.7
15°	2133.1	2126.1	2122.5	2119.0	2115.5	2108.5	2112.0	2108.5
17.5°	2066.4	2055.8	2055.8	2052.3	2048.8	2041.7	2041.7	2038.2
20°	1988.9	1985.4	1978.5	1982.0	1978.5	1971.5	1967.9	1967.9
22.5°	1911.6	1911.6	1908.1	1908.1	1904.6	1901.1	1897.7	1897.7
25°	1837.9	1834.3	1837.9	1837.9	1827.3	1827.3	1827.3	1830.8
27.5°	1753.5	1757.0	1753.5	1753.5	1753.5	1753.5	1757.0	1753.5
30°	1669.2	1669.2	1669.2	1672.7	1679.7	1676.2	1676.2	1672.7
32.5°	1577.8	1581.3	1581.3	1584.8	1588.4	1595.4	1595.4	1598.9
35°	1486.4	1493.5	1497.0	1493.5	1504.0	1504.0	1511.1	1511.1
37.5°	1391.6	1395.0	1402.1	1405.6	1412.6	1416.2	1419.7	1419.7
40°	1289.7	1303.8	1307.3	1310.7	1321.3	1321.3	1324.8	1331.8
42.5°	1194.8	1208.9	1212.4	1215.9	1223.0	1233.4	1229.9	1236.9
45°	1103.4	1114.0	1117.5	1121.0	1131.6	1135.1	1135.1	1145.6
47.5°	1005.0	1012.1	1015.6	1022.6	1029.7	1036.7	1043.7	1040.2
50°	906.6	917.2	924.2	927.7	938.3	941.8	945.3	948.8
52.5°	818.8	825.8	829.3	832.8	843.4	846.9	850.4	857.5
55°	734.4	737.9	745.0	741.5	752.0	755.5	759.0	766.1
57.5°	650.1	653.6	657.1	657.1	664.2	671.2	674.7	678.2
60°	569.3	576.3	579.8	579.8	579.8	586.9	586.9	586.9
62.5°	495.5	495.5	499.0	499.0	506.0	506.0	506.0	506.0
65°	418.2	421.7	425.2	425.2	432.3	428.7	435.8	432.3
67.5°	337.4	337.4	344.4	344.4	340.9	344.4	344.4	344.4
70°	256.5	256.5	260.1	260.1	260.1	260.1	260.1	260.1
72.5°	189.8	189.8	189.8	193.3	189.8	189.8	193.3	189.8
75°	147.6	147.6	147.6	147.6	147.6	147.6	147.6	147.6
77.5°	116.0	116.0	119.5	119.5	119.5	119.5	119.5	119.5
80°	94.9	94.9	94.9	94.9	98.4	94.9	94.9	94.9
82.5°	70.3	66.7	70.3	66.7	70.3	70.3	70.3	70.3
85°	42.2	42.2	42.2	42.2	42.2	42.2	42.2	42.2
87.5°	17.6	17.6	17.6	17.6	17.6	17.6	17.6	17.6
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)