

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: P584657

Luminaire Tested: **HC845D010-HM82555827-81WWBB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584657
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: HC845D010-HM82555827-81WWBB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4103.4 lumens
Efficiency: N/A
Efficacy: 93.3 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

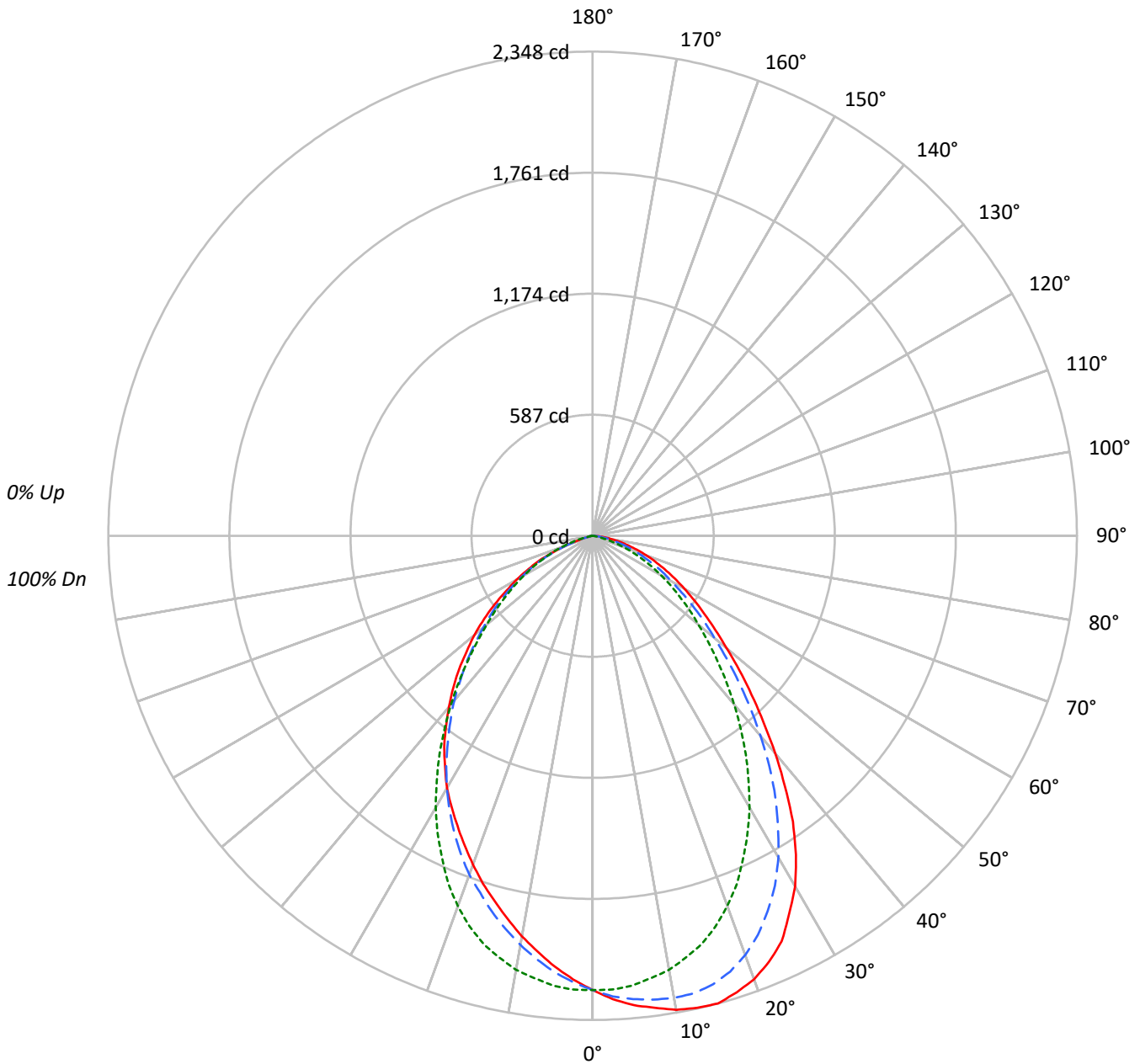
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	67929	67929	67929
5°	70736	67783	64929
10°	73101	66917	61760
15°	74951	65387	58552
20°	75098	62674	55648
25°	73832	58709	52768
30°	69878	54168	50298
35°	63713	48715	47225
40°	55406	42943	43611
45°	47534	37194	39920
50°	40599	32070	35855
55°	35579	27617	31160
60°	31681	23553	26192
65°	28106	19226	20897
70°	24938	14245	11874
75°	20790	7446	3539
80°	16373	2326	586
85°	11676	1168	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	207.6	5.1
10°-20°	581.8	14.2
20°-30°	823.5	20.1
30°-40°	861.5	21.0
40°-50°	718.6	17.5
50°-60°	509.5	12.4
60°-70°	293.5	7.2
70°-80°	94.4	2.3
80°-90°	13.0	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°	1612.8	39.3
0°-40°	2474.3	60.3
0°-60°	3702.4	90.2
0°-90°	4103.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4103.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2203	2203	2203	2203	2203	
5°	2285	2256	2190	2124	2098	219
15°	2348	2252	2048	1887	1834	660
25°	2170	2009	1726	1587	1551	990
35°	1692	1544	1294	1225	1254	1049
45°	1090	1001	853	863	915	845
55°	662	593	514	540	580	598
65°	385	323	264	264	286	385
75°	174	128	62	30	30	189
85°	33	16	3	0	0	41
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°	2202.9	2202.9	2202.9	2202.9	2202.9	2202.9	2202.9	2202.9	2202.9	2202.9	2202.9
2.5°	2249.0	2245.7	2242.4	2245.7	2242.4	2245.7	2242.4	2242.4	2239.1	2235.9	2235.9
5°	2285.2	2282.0	2282.0	2282.0	2278.7	2275.4	2275.4	2272.1	2265.5	2262.2	2255.6
7.5°	2308.3	2311.6	2311.6	2311.6	2304.9	2304.9	2298.4	2291.8	2285.2	2278.7	2268.8
10°	2334.6	2334.6	2331.3	2328.1	2321.5	2318.2	2314.9	2308.3	2298.4	2285.2	2275.4
12.5°	2344.5	2344.5	2341.2	2334.6	2331.3	2328.1	2324.8	2314.9	2301.7	2285.2	2272.1
15°	2347.8	2341.2	2337.9	2334.6	2328.1	2318.2	2318.2	2304.9	2288.5	2268.8	2252.3
17.5°	2321.5	2324.8	2318.2	2311.6	2301.7	2295.1	2285.2	2275.4	2255.6	2232.6	2216.1
20°	2288.5	2285.2	2282.0	2272.1	2258.8	2255.6	2245.7	2229.3	2212.7	2186.5	2163.4
22.5°	2235.9	2232.6	2226.0	2219.4	2206.2	2199.6	2189.8	2170.0	2146.9	2120.5	2094.3
25°	2170.0	2163.4	2153.5	2140.4	2130.5	2124.0	2110.7	2091.0	2064.6	2035.0	2008.6
27.5°	2064.6	2074.5	2067.9	2048.2	2038.3	2025.1	2021.8	1995.5	1972.4	1942.8	1913.2
30°	1962.5	1962.5	1952.7	1942.8	1926.3	1916.4	1903.3	1883.5	1860.5	1824.2	1801.1
32.5°	1834.1	1830.8	1817.7	1814.4	1801.1	1781.4	1778.2	1751.8	1728.8	1702.4	1672.8
35°	1692.5	1686.0	1672.8	1662.8	1656.3	1646.4	1636.6	1613.5	1590.5	1564.1	1544.4
37.5°	1531.2	1531.2	1527.8	1511.4	1504.8	1498.3	1488.4	1465.3	1452.2	1425.8	1406.1
40°	1376.4	1373.1	1363.3	1360.0	1353.4	1343.4	1336.9	1323.7	1304.0	1284.2	1264.5
42.5°	1225.0	1228.2	1215.1	1218.4	1205.1	1198.6	1195.3	1175.6	1165.7	1145.9	1129.5
45°	1090.0	1086.7	1080.1	1076.8	1070.1	1063.6	1057.0	1047.1	1030.7	1010.9	1001.0
47.5°	964.8	954.9	954.9	951.7	948.4	935.1	931.8	922.0	912.1	892.4	879.2
50°	846.3	846.3	846.3	842.9	833.1	829.8	823.2	813.4	803.5	790.3	770.5
52.5°	750.7	750.7	750.7	747.4	734.3	731.0	727.7	714.6	701.3	691.5	678.3
55°	661.8	665.2	661.8	655.2	645.4	645.4	635.5	629.0	615.7	605.9	592.7
57.5°	586.1	586.1	579.6	576.3	569.6	566.3	559.8	553.2	536.8	526.9	510.4
60°	513.7	510.4	510.4	503.8	497.2	490.7	487.4	477.4	470.8	454.4	441.3
62.5°	447.9	447.9	441.3	441.3	428.0	428.0	424.7	414.9	405.0	388.6	381.9
65°	385.2	385.2	381.9	378.6	368.8	365.5	362.2	352.4	342.4	332.5	322.7
67.5°	329.3	329.3	322.7	319.4	312.8	309.6	303.0	296.3	286.4	276.6	266.7
70°	276.6	273.3	270.0	266.7	260.2	256.9	250.2	243.6	233.8	227.2	217.4
72.5°	223.9	223.9	220.6	214.1	210.8	207.5	204.1	197.5	187.7	177.8	171.3
75°	174.5	174.5	174.5	168.0	161.4	158.0	158.0	151.4	144.9	135.0	128.4
77.5°	135.0	131.7	128.4	128.4	121.9	118.6	115.3	111.9	102.1	98.8	92.2
80°	92.2	95.5	92.2	88.9	85.6	82.3	82.3	75.8	72.5	65.8	59.2
82.5°	62.5	59.2	59.2	56.0	56.0	52.7	52.7	46.1	42.8	39.5	36.2
85°	33.0	33.0	29.7	29.7	29.7	26.4	26.4	23.1	23.1	19.7	16.4
87.5°	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	6.6	6.6	6.6
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°	2202.9	2202.9	2202.9	2202.9	2202.9	2202.9	2202.9	2202.9	2202.9	2202.9	2202.9
2.5°	2232.6	2226.0	2222.7	2222.7	2219.4	2216.1	2212.7	2209.5	2202.9	2202.9	2196.3
5°	2249.0	2242.4	2239.1	2229.3	2222.7	2222.7	2209.5	2206.2	2196.3	2189.8	2183.2
7.5°	2262.2	2249.0	2239.1	2229.3	2222.7	2216.1	2202.9	2189.8	2176.6	2163.4	2156.8
10°	2262.2	2249.0	2232.6	2216.1	2209.5	2202.9	2186.5	2166.6	2150.2	2137.1	2120.5
12.5°	2255.6	2235.9	2216.1	2202.9	2189.8	2179.9	2160.1	2140.4	2120.5	2094.3	2081.1
15°	2235.9	2209.5	2189.8	2166.6	2156.8	2140.4	2124.0	2094.3	2071.2	2048.2	2031.6
17.5°	2196.3	2163.4	2140.4	2117.3	2100.8	2091.0	2064.6	2038.3	2011.9	1985.5	1965.8
20°	2137.1	2107.4	2081.1	2051.5	2038.3	2025.1	1992.2	1965.8	1939.4	1909.9	1890.1
22.5°	2064.6	2035.0	1998.8	1975.7	1956.0	1939.4	1909.9	1880.2	1853.9	1827.5	1801.1
25°	1975.7	1946.1	1913.2	1876.9	1863.8	1847.2	1814.4	1784.7	1755.0	1725.5	1702.4
27.5°	1880.2	1840.7	1814.4	1774.9	1761.7	1745.2	1708.9	1676.1	1649.7	1626.7	1600.3
30°	1765.0	1735.3	1699.1	1662.8	1649.7	1633.3	1603.6	1573.9	1547.7	1521.3	1495.0
32.5°	1639.9	1610.2	1573.9	1547.7	1527.8	1514.7	1485.1	1458.7	1432.4	1406.1	1383.0
35°	1508.1	1475.2	1448.9	1422.5	1406.1	1389.5	1360.0	1336.9	1317.2	1294.1	1271.1
37.5°	1373.1	1350.1	1323.7	1294.1	1277.6	1264.5	1241.4	1215.1	1198.6	1178.9	1162.3
40°	1241.4	1215.1	1192.0	1165.7	1152.5	1142.6	1119.6	1099.8	1083.4	1066.8	1057.0
42.5°	1106.4	1083.4	1060.3	1043.9	1034.0	1024.0	1007.6	984.6	974.6	958.2	948.4
45°	981.2	961.5	945.1	922.0	915.4	908.8	889.0	872.6	862.7	852.9	846.3
47.5°	862.7	849.6	829.8	816.6	806.8	800.2	787.0	773.8	764.0	757.4	750.7
50°	760.7	744.2	731.0	717.9	711.3	701.3	688.2	681.6	675.1	668.5	668.5
52.5°	665.2	648.7	635.5	625.7	619.1	612.4	602.6	599.3	592.7	592.7	589.4
55°	576.3	566.3	553.2	540.0	536.8	533.5	526.9	520.2	516.9	513.7	516.9
57.5°	500.5	490.7	477.4	467.6	464.3	461.0	457.7	451.1	447.9	447.9	447.9
60°	431.3	421.5	411.6	401.8	401.8	395.2	391.9	388.6	385.2	381.9	381.9
62.5°	368.8	358.9	349.1	342.4	339.1	335.8	329.3	326.0	322.7	322.7	319.4
65°	312.8	299.7	296.3	286.4	283.2	279.9	276.6	270.0	266.7	263.5	260.2
67.5°	256.9	250.2	240.3	233.8	230.5	227.2	223.9	217.4	214.1	210.8	204.1
70°	207.5	200.8	194.2	187.7	184.4	181.1	174.5	168.0	164.7	158.0	148.1
72.5°	161.4	154.7	148.1	141.6	138.3	135.0	128.4	121.9	115.3	108.6	102.1
75°	121.9	115.3	105.3	98.8	95.5	95.5	85.6	79.1	72.5	62.5	56.0
77.5°	85.6	75.8	72.5	65.8	62.5	56.0	49.4	42.8	36.2	33.0	26.4
80°	56.0	49.4	42.8	39.5	36.2	33.0	29.7	23.1	16.4	13.1	9.9
82.5°	33.0	29.7	26.4	23.1	19.7	16.4	13.1	13.1	9.9	6.6	3.3
85°	16.4	13.1	9.9	9.9	6.6	6.6	6.6	3.3	3.3	3.3	3.3
87.5°	6.6	3.3	3.3	3.3	3.3	3.3	3.3	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°	2202.9	2202.9	2202.9	2202.9	2202.9	2202.9	2202.9	2202.9	2202.9	2202.9	2202.9
2.5°	2193.0	2189.8	2186.5	2183.2	2183.2	2176.6	2176.6	2173.3	2166.6	2163.4	2163.4
5°	2173.3	2163.4	2156.8	2153.5	2150.2	2140.4	2137.1	2130.5	2124.0	2117.3	2114.0
7.5°	2143.7	2127.2	2120.5	2117.3	2107.4	2097.6	2091.0	2081.1	2071.2	2061.3	2058.0
10°	2107.4	2091.0	2074.5	2067.9	2058.0	2051.5	2038.3	2025.1	2015.2	2005.4	1995.5
12.5°	2061.3	2041.6	2025.1	2018.5	2008.6	1995.5	1975.7	1969.1	1952.7	1946.1	1932.9
15°	2008.6	1985.5	1969.1	1959.3	1949.4	1929.6	1916.4	1903.3	1886.8	1880.2	1867.1
17.5°	1942.8	1916.4	1900.0	1890.1	1883.5	1867.1	1847.2	1830.8	1814.4	1807.8	1797.9
20°	1863.8	1847.2	1824.2	1814.4	1807.8	1788.0	1768.3	1761.7	1748.5	1735.3	1725.5
22.5°	1774.9	1758.4	1735.3	1725.5	1722.2	1705.7	1689.2	1679.4	1669.5	1659.6	1649.7
25°	1682.7	1662.8	1643.1	1636.6	1630.0	1616.7	1603.6	1597.0	1587.2	1580.6	1573.9
27.5°	1583.9	1564.1	1547.7	1537.8	1531.2	1521.3	1514.7	1508.1	1501.6	1495.0	1491.7
30°	1478.4	1458.7	1445.6	1439.0	1432.4	1429.1	1419.2	1415.9	1412.6	1406.1	1409.4
32.5°	1373.1	1356.7	1343.4	1333.6	1333.6	1327.0	1323.7	1323.7	1320.4	1320.4	1320.4
35°	1257.9	1248.0	1238.1	1234.8	1231.5	1228.2	1225.0	1228.2	1225.0	1228.2	1231.5
37.5°	1152.5	1142.6	1136.1	1132.8	1129.5	1132.8	1129.5	1129.5	1132.8	1139.3	1142.6
40°	1043.9	1037.3	1030.7	1034.0	1030.7	1030.7	1030.7	1040.6	1043.9	1047.1	1050.4
42.5°	941.8	935.1	931.8	931.8	935.1	931.8	938.5	941.8	948.4	958.2	964.8
45°	842.9	839.6	839.6	842.9	839.6	846.3	846.3	852.9	862.7	869.3	875.9
47.5°	750.7	750.7	750.7	754.1	754.1	757.4	764.0	767.3	773.8	780.4	787.0
50°	665.2	668.5	671.8	671.8	671.8	678.3	684.9	688.2	691.5	694.8	704.6
52.5°	589.4	592.7	592.7	596.0	599.3	602.6	605.9	612.4	615.7	622.4	625.7
55°	516.9	516.9	523.5	526.9	526.9	526.9	533.5	533.5	540.0	543.3	549.9
57.5°	447.9	451.1	451.1	454.4	454.4	457.7	461.0	464.3	467.6	470.8	474.1
60°	381.9	381.9	381.9	385.2	388.6	391.9	388.6	395.2	395.2	401.8	405.0
62.5°	319.4	322.7	322.7	322.7	322.7	322.7	322.7	326.0	329.3	332.5	335.8
65°	260.2	260.2	260.2	256.9	260.2	256.9	260.2	263.5	263.5	266.7	270.0
67.5°	200.8	200.8	194.2	194.2	197.5	197.5	197.5	197.5	194.2	200.8	200.8
70°	144.9	141.6	138.3	135.0	135.0	131.7	131.7	128.4	128.4	128.4	128.4
72.5°	95.5	88.9	82.3	79.1	75.8	75.8	69.2	65.8	69.2	69.2	69.2
75°	49.4	42.8	39.5	36.2	33.0	33.0	29.7	29.7	29.7	29.7	29.7
77.5°	19.7	16.4	13.1	13.1	9.9	9.9	9.9	9.9	9.9	9.9	9.9
80°	6.6	6.6	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
82.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
85°	3.3	0.0	0.0	3.3	0.0	3.3	3.3	3.3	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: P584657

CATALOG NUMBER: HC845D010-HM82555827-81WWBB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2202.9	2202.9	2202.9	2202.9	2202.9	2202.9	2202.9	2202.9
2.5°	2160.1	2160.1	2156.8	2160.1	2153.5	2156.8	2153.5	2153.5
5°	2110.7	2104.1	2104.1	2104.1	2100.8	2100.8	2097.6	2097.6
7.5°	2051.5	2048.2	2044.9	2041.6	2038.3	2035.0	2035.0	2035.0
10°	1992.2	1985.5	1985.5	1982.3	1975.7	1972.4	1972.4	1972.4
12.5°	1923.0	1919.7	1916.4	1916.4	1903.3	1906.6	1903.3	1903.3
15°	1857.2	1853.9	1853.9	1844.0	1837.4	1837.4	1837.4	1834.1
17.5°	1788.0	1784.7	1781.4	1774.9	1768.3	1768.3	1765.0	1768.3
20°	1715.6	1712.2	1705.7	1705.7	1702.4	1699.1	1692.5	1695.8
22.5°	1643.1	1636.6	1633.3	1633.3	1630.0	1630.0	1623.4	1623.4
25°	1567.4	1564.1	1560.8	1564.1	1557.5	1557.5	1550.9	1550.9
27.5°	1488.4	1485.1	1485.1	1485.1	1481.7	1485.1	1481.7	1481.7
30°	1409.4	1409.4	1406.1	1406.1	1409.4	1406.1	1409.4	1412.6
32.5°	1323.7	1323.7	1327.0	1327.0	1330.3	1330.3	1330.3	1330.3
35°	1234.8	1241.4	1241.4	1244.7	1248.0	1251.2	1251.2	1254.5
37.5°	1152.5	1155.8	1159.0	1162.3	1169.0	1169.0	1169.0	1169.0
40°	1063.6	1066.8	1073.5	1070.1	1083.4	1086.7	1083.4	1083.4
42.5°	971.4	977.9	981.2	987.9	991.2	997.8	1001.0	1001.0
45°	885.7	889.0	895.7	902.3	905.6	915.4	915.4	915.4
47.5°	796.8	803.5	806.8	813.4	816.6	826.5	829.8	826.5
50°	711.3	717.9	724.4	724.4	734.3	737.6	744.2	747.4
52.5°	629.0	632.2	638.8	642.1	648.7	655.2	658.5	661.8
55°	549.9	553.2	559.8	559.8	569.6	573.0	579.6	579.6
57.5°	477.4	480.8	487.4	484.1	490.7	497.2	497.2	494.0
60°	408.3	408.3	408.3	414.9	418.2	421.5	424.7	424.7
62.5°	335.8	342.4	345.8	345.8	349.1	352.4	352.4	349.1
65°	270.0	276.6	279.9	279.9	283.2	283.2	283.2	286.4
67.5°	204.1	204.1	204.1	207.5	204.1	204.1	204.1	204.1
70°	128.4	128.4	128.4	128.4	125.2	128.4	128.4	131.7
72.5°	69.2	69.2	69.2	69.2	69.2	69.2	69.2	69.2
75°	29.7	29.7	29.7	33.0	29.7	29.7	29.7	29.7
77.5°	13.1	9.9	13.1	13.1	9.9	9.9	9.9	9.9
80°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
82.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
85°	0.0	3.3	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



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













(END OF REPORT)