

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: P584684

Luminaire Tested: **HC845D010-HM82555835-81RWWC**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584684
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-14)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC845D010-HM82555835-81RWWC
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4854.2 lumens
Efficiency: N/A
Efficacy: 110.3 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.08 / 1.17
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

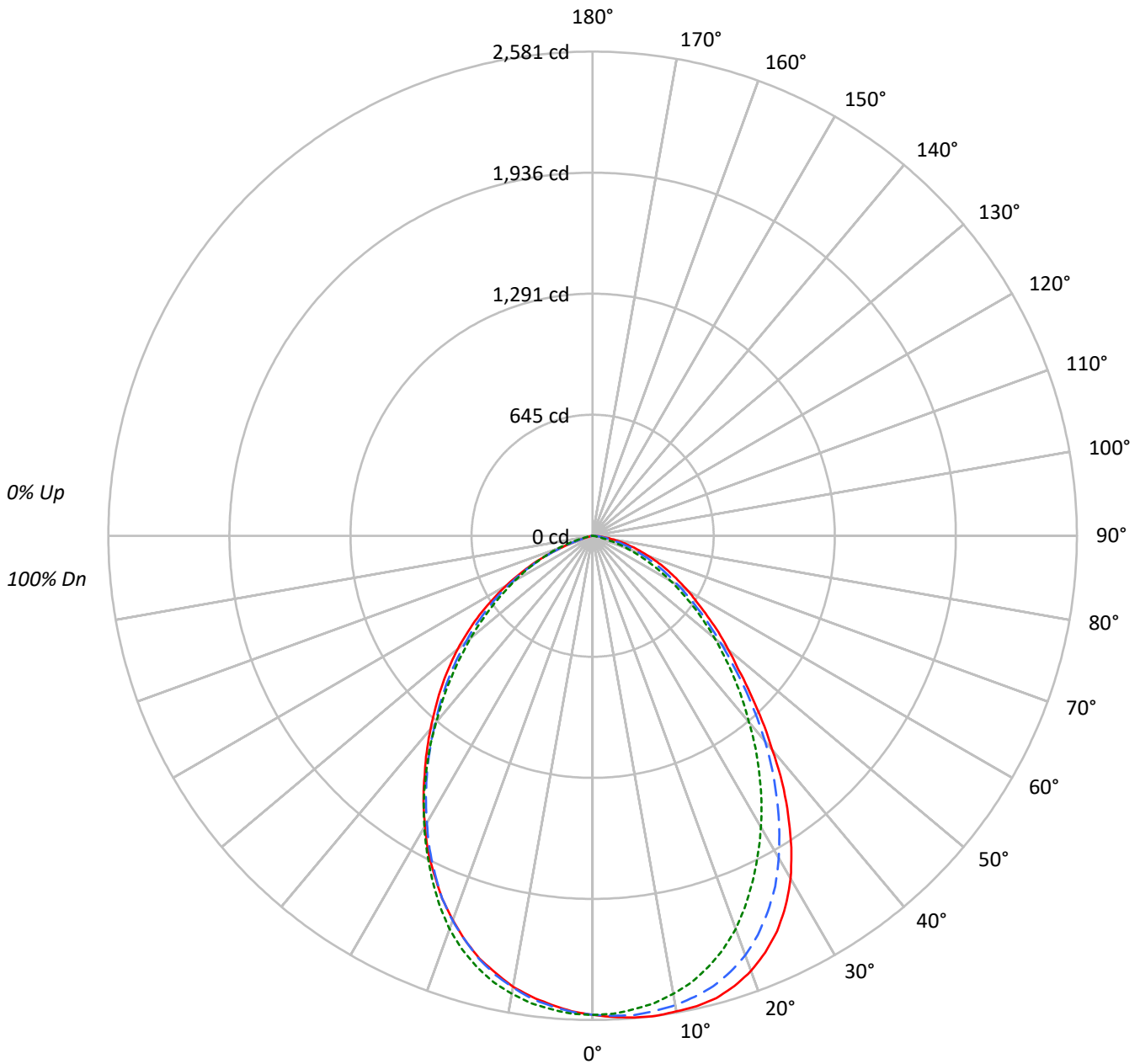
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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			100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88			88
2	103	96	90	85	100	94	89	84	91	86	82	87	84	81	85	82	79	77			77
3	95	86	79	73	93	84	78	73	82	76	72	79	74	70	76	73	69	67			67
4	88	77	70	64	86	76	69	64	74	68	63	72	66	62	69	65	61	59			59
5	81	70	62	56	80	69	62	56	67	61	56	65	59	55	63	58	54	52			52
6	76	64	56	50	74	63	55	50	61	55	50	60	54	49	58	53	49	47			47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42			42
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38			38
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35			35
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32			32

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	78759	78759	78759
5°	79800	78428	77689
10°	80616	77626	76451
15°	81429	75989	74463
20°	81014	73181	71505
25°	79126	68800	67875
30°	75159	63864	63622
35°	68422	58277	58793
40°	59986	52161	54085
45°	51751	46396	49671
50°	45315	40734	44989
55°	40149	35020	39595
60°	36171	29443	32810
65°	32593	23641	25129
70°	28599	17220	13830
75°	24377	8948	3658
80°	18770	2415	604
85°	12065	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	241.0	5.0
10°-20°	677.4	14.0
20°-30°	961.5	19.8
30°-40°	1012.1	20.9
40°-50°	861.0	17.7
50°-60°	622.2	12.8
60°-70°	353.9	7.3
70°-80°	111.5	2.3
80°-90°	13.5	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°	1879.9	38.7
0°-40°	2892.1	59.6
0°-60°	4375.3	90.1
0°-90°	4854.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4854.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2554	2554	2554	2554	2554	
5°	2578	2564	2534	2517	2510	246
15°	2551	2486	2380	2336	2332	718
25°	2326	2210	2022	1988	1995	1065
35°	1818	1712	1548	1538	1562	1131
45°	1187	1142	1064	1091	1139	922
55°	747	692	651	689	736	673
65°	447	385	324	321	344	443
75°	205	157	75	34	31	220
85°	34	20	0	0	0	44
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°	2554.1	2554.1	2554.1	2554.1	2554.1	2554.1	2554.1	2554.1	2554.1	2554.1	2554.1
2.5°	2567.8	2571.2	2564.3	2564.3	2571.2	2564.3	2567.8	2567.8	2564.3	2564.3	2560.9
5°	2578.0	2574.6	2574.6	2574.6	2578.0	2571.2	2567.8	2571.2	2564.3	2564.3	2564.3
7.5°	2581.4	2581.4	2578.0	2574.6	2574.6	2574.6	2571.2	2567.8	2564.3	2557.5	2554.1
10°	2574.6	2574.6	2578.0	2571.2	2571.2	2564.3	2564.3	2557.5	2557.5	2550.7	2540.5
12.5°	2567.8	2564.3	2564.3	2557.5	2557.5	2550.7	2550.7	2540.5	2537.1	2526.9	2516.6
15°	2550.7	2547.3	2540.5	2537.1	2533.7	2530.3	2523.5	2520.1	2509.8	2496.1	2485.9
17.5°	2516.6	2513.2	2509.8	2502.9	2496.1	2492.7	2489.3	2479.1	2465.4	2455.2	2438.2
20°	2468.8	2465.4	2465.4	2455.2	2451.8	2441.6	2438.2	2424.6	2414.3	2393.9	2380.3
22.5°	2404.1	2407.5	2400.7	2393.9	2387.1	2376.8	2369.9	2356.3	2339.3	2318.8	2301.8
25°	2325.6	2329.1	2322.2	2315.4	2305.2	2298.4	2291.6	2271.0	2254.0	2230.1	2209.7
27.5°	2226.7	2226.7	2226.7	2219.9	2202.9	2199.5	2192.7	2172.2	2148.3	2127.8	2107.4
30°	2110.8	2107.4	2107.4	2097.2	2090.4	2076.7	2066.5	2049.5	2032.3	2008.5	1984.6
32.5°	1971.0	1974.4	1964.2	1957.4	1947.2	1947.2	1933.5	1919.8	1899.4	1875.5	1851.7
35°	1817.6	1821.0	1814.2	1810.8	1793.6	1790.2	1786.8	1769.8	1756.2	1739.1	1711.9
37.5°	1660.7	1657.3	1653.8	1653.8	1643.6	1636.8	1630.0	1619.8	1599.3	1585.7	1572.1
40°	1490.2	1490.2	1490.2	1486.8	1483.4	1476.6	1473.2	1466.4	1452.6	1439.0	1428.8
42.5°	1336.8	1336.8	1333.3	1329.9	1323.1	1326.5	1319.6	1312.8	1299.2	1289.0	1282.2
45°	1186.7	1186.7	1186.7	1190.1	1183.3	1173.0	1173.0	1166.2	1159.4	1152.6	1142.4
47.5°	1053.7	1063.9	1057.1	1053.7	1057.1	1043.5	1043.5	1036.7	1029.8	1023.0	1009.4
50°	944.6	944.6	944.6	937.8	934.3	934.3	924.1	917.3	913.9	907.1	893.5
52.5°	845.7	838.8	838.8	835.4	832.0	825.2	825.2	818.4	804.8	798.0	787.7
55°	746.8	746.8	743.3	739.9	736.5	733.1	729.7	719.5	712.7	702.5	692.2
57.5°	658.2	665.0	661.6	654.8	648.0	648.0	641.0	634.2	624.0	613.8	603.6
60°	586.5	583.1	583.1	579.7	572.9	569.5	566.1	555.9	545.6	535.4	525.2
62.5°	511.5	511.5	511.5	504.7	497.8	494.4	491.0	484.2	470.6	460.4	453.5
65°	446.7	443.3	439.9	436.5	433.1	426.3	422.9	416.1	405.7	395.5	385.3
67.5°	381.9	378.5	378.5	375.1	364.9	361.5	361.5	351.2	341.0	330.8	320.6
70°	317.2	317.2	317.2	310.3	306.9	303.5	300.1	293.2	283.0	272.8	262.5
72.5°	262.5	259.1	259.1	255.7	245.5	242.1	238.7	231.9	221.7	214.8	208.0
75°	204.6	204.6	201.2	197.8	194.4	191.0	187.6	180.8	170.6	160.2	156.8
77.5°	156.8	153.4	153.4	150.0	143.2	139.8	139.8	133.0	122.8	115.9	109.1
80°	105.7	109.1	105.7	102.3	98.9	95.5	92.1	88.7	81.9	75.1	68.2
82.5°	64.7	68.2	64.7	64.7	61.3	57.9	57.9	51.1	47.7	44.3	40.9
85°	34.1	34.1	34.1	34.1	30.7	30.7	30.7	27.3	23.8	20.4	20.4
87.5°	10.2	13.6	10.2	10.2	10.2	10.2	10.2	10.2	6.8	6.8	6.8
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°	2554.1	2554.1	2554.1	2554.1	2554.1	2554.1	2554.1	2554.1	2554.1	2554.1	2554.1
2.5°	2564.3	2560.9	2557.5	2557.5	2557.5	2557.5	2557.5	2554.1	2550.7	2550.7	2550.7
5°	2557.5	2557.5	2557.5	2554.1	2550.7	2550.7	2543.9	2540.5	2537.1	2533.7	2530.3
7.5°	2550.7	2543.9	2540.5	2537.1	2533.7	2533.7	2526.9	2520.1	2520.1	2513.2	2506.3
10°	2530.3	2526.9	2520.1	2513.2	2509.8	2506.3	2499.5	2489.3	2485.9	2479.1	2472.3
12.5°	2506.3	2499.5	2492.7	2479.1	2475.7	2472.3	2458.6	2448.4	2441.6	2438.2	2421.1
15°	2475.7	2462.0	2451.8	2434.8	2431.4	2424.6	2414.3	2404.1	2390.5	2380.3	2373.3
17.5°	2421.1	2407.5	2390.5	2373.3	2366.5	2366.5	2349.5	2335.9	2318.8	2312.0	2298.4
20°	2356.3	2339.3	2325.6	2305.2	2295.0	2284.8	2274.4	2254.0	2240.4	2230.1	2213.1
22.5°	2281.4	2257.4	2240.4	2219.9	2202.9	2192.7	2175.6	2158.6	2141.5	2131.2	2117.6
25°	2185.9	2165.4	2138.1	2117.6	2107.4	2093.8	2073.3	2056.3	2039.1	2022.1	2015.3
27.5°	2080.1	2052.9	2028.9	2005.1	1994.9	1984.6	1960.8	1940.3	1926.7	1909.6	1902.8
30°	1964.2	1936.9	1909.6	1889.1	1878.9	1861.9	1848.3	1824.4	1807.4	1793.6	1776.6
32.5°	1831.2	1810.8	1786.8	1756.2	1749.3	1735.7	1715.3	1705.1	1684.5	1674.3	1660.7
35°	1687.9	1674.3	1650.4	1626.6	1616.4	1609.6	1592.5	1572.1	1558.3	1548.1	1541.3
37.5°	1551.5	1534.5	1510.6	1493.6	1486.8	1476.6	1456.0	1445.8	1432.2	1425.4	1411.7
40°	1404.9	1387.9	1370.9	1360.6	1350.4	1343.6	1329.9	1319.6	1306.0	1295.8	1292.4
42.5°	1261.7	1251.5	1237.9	1224.3	1220.7	1210.5	1203.7	1193.5	1183.3	1179.9	1169.6
45°	1132.2	1121.9	1108.3	1094.6	1091.2	1084.4	1081.0	1070.7	1063.9	1063.9	1063.9
47.5°	1002.6	992.4	978.6	971.8	975.2	961.6	961.6	958.2	951.4	951.4	954.8
50°	886.6	872.9	869.5	862.7	855.9	849.1	852.5	842.3	842.3	849.1	845.7
52.5°	777.5	763.9	760.5	753.7	750.3	750.3	746.8	746.8	743.3	746.8	746.8
55°	678.6	668.4	661.6	654.8	651.4	651.4	651.4	648.0	644.4	651.4	654.8
57.5°	589.9	586.5	579.7	569.5	566.1	562.7	559.3	559.3	559.3	559.3	562.7
60°	511.5	504.7	497.8	487.6	487.6	484.2	480.8	477.4	477.4	477.4	477.4
62.5°	443.3	433.1	422.9	416.1	412.7	409.3	405.7	398.9	398.9	398.9	398.9
65°	375.1	364.9	358.0	351.2	344.4	344.4	337.6	334.2	327.4	324.0	317.2
67.5°	310.3	303.5	296.7	286.4	283.0	279.6	272.8	269.4	259.1	255.7	252.3
70°	252.3	242.1	235.3	228.5	225.1	218.3	211.4	204.6	197.8	191.0	184.2
72.5°	197.8	187.6	180.8	174.0	167.0	167.0	156.8	150.0	139.8	133.0	122.8
75°	146.6	136.4	129.6	119.3	115.9	112.5	102.3	95.5	85.3	75.1	68.2
77.5°	98.9	92.1	85.3	75.1	68.2	68.2	57.9	51.1	44.3	34.1	30.7
80°	61.3	54.5	47.7	40.9	40.9	34.1	30.7	23.8	17.0	13.6	10.2
82.5°	34.1	30.7	27.3	20.4	20.4	17.0	13.6	10.2	6.8	3.4	3.4
85°	17.0	13.6	10.2	10.2	6.8	6.8	6.8	3.4	3.4	0.0	0.0
87.5°	6.8	3.4	3.4	3.4	3.4	3.4	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2554.1	2554.1	2554.1	2554.1	2554.1	2554.1	2554.1	2554.1	2554.1	2554.1	2554.1
2.5°	2547.3	2547.3	2543.9	2543.9	2543.9	2540.5	2543.9	2540.5	2540.5	2540.5	2543.9
5°	2533.7	2526.9	2526.9	2523.5	2523.5	2520.1	2523.5	2520.1	2516.6	2513.2	2516.6
7.5°	2506.3	2499.5	2496.1	2492.7	2492.7	2492.7	2489.3	2485.9	2489.3	2479.1	2485.9
10°	2468.8	2465.4	2458.6	2455.2	2451.8	2455.2	2451.8	2445.0	2445.0	2445.0	2441.6
12.5°	2421.1	2414.3	2410.9	2407.5	2400.7	2400.7	2404.1	2397.3	2397.3	2390.5	2390.5
15°	2363.1	2356.3	2349.5	2349.5	2342.7	2342.7	2339.3	2339.3	2335.9	2332.5	2332.5
17.5°	2291.6	2281.4	2274.4	2277.8	2274.4	2271.0	2271.0	2264.2	2260.8	2264.2	2264.2
20°	2206.3	2199.5	2192.7	2196.1	2189.3	2185.9	2189.3	2179.0	2182.4	2182.4	2182.4
22.5°	2110.8	2107.4	2097.2	2097.2	2090.4	2086.9	2090.4	2090.4	2093.8	2090.4	2090.4
25°	2005.1	1998.3	1991.4	1991.4	1988.0	1984.6	1988.0	1991.4	1988.0	1991.4	1991.4
27.5°	1892.5	1882.3	1882.3	1875.5	1875.5	1878.9	1875.5	1878.9	1882.3	1882.3	1889.1
30°	1769.8	1766.4	1763.0	1759.6	1759.6	1763.0	1763.0	1763.0	1766.4	1773.2	1773.2
32.5°	1653.8	1647.0	1640.2	1640.2	1647.0	1643.6	1647.0	1647.0	1653.8	1653.8	1660.7
35°	1527.7	1527.7	1520.9	1524.3	1524.3	1524.3	1524.3	1531.1	1537.9	1541.3	1548.1
37.5°	1411.7	1401.5	1404.9	1404.9	1408.3	1404.9	1415.1	1415.1	1422.0	1422.0	1428.8
40°	1285.6	1285.6	1289.0	1285.6	1289.0	1289.0	1295.8	1302.6	1306.0	1312.8	1316.2
42.5°	1166.2	1173.0	1166.2	1169.6	1173.0	1176.5	1179.9	1183.3	1196.9	1203.7	1213.9
45°	1057.1	1060.5	1063.9	1067.3	1063.9	1070.7	1074.1	1081.0	1091.2	1094.6	1098.0
47.5°	951.4	954.8	958.2	961.6	961.6	968.4	971.8	978.6	985.6	989.0	992.4
50°	849.1	855.9	859.3	859.3	862.7	869.5	876.3	876.3	883.2	893.5	896.9
52.5°	757.1	757.1	763.9	767.3	770.7	770.7	780.9	784.3	787.7	794.6	801.4
55°	654.8	665.0	668.4	668.4	675.2	682.0	685.4	688.8	688.8	702.5	702.5
57.5°	566.1	569.5	576.3	576.3	576.3	586.5	586.5	593.3	596.7	600.2	607.0
60°	477.4	484.2	484.2	487.6	484.2	491.0	494.4	501.2	504.7	508.1	511.5
62.5°	395.5	395.5	398.9	398.9	398.9	398.9	405.7	405.7	412.7	416.1	419.5
65°	317.2	317.2	317.2	317.2	317.2	317.2	317.2	317.2	320.6	320.6	327.4
67.5°	245.5	242.1	235.3	238.7	235.3	235.3	231.9	231.9	235.3	235.3	242.1
70°	177.4	174.0	167.0	167.0	163.6	160.2	156.8	153.4	150.0	150.0	150.0
72.5°	115.9	109.1	98.9	95.5	95.5	88.7	81.9	78.5	78.5	78.5	78.5
75°	57.9	51.1	44.3	40.9	40.9	34.1	37.5	34.1	34.1	34.1	34.1
77.5°	23.8	17.0	13.6	13.6	13.6	10.2	10.2	10.2	10.2	10.2	10.2
80°	6.8	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
82.5°	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	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	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: P584684

CATALOG NUMBER: HC845D010-HM82555835-81RWWC

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2554.1	2554.1	2554.1	2554.1	2554.1	2554.1	2554.1	2554.1
2.5°	2540.5	2540.5	2533.7	2537.1	2537.1	2537.1	2537.1	2537.1
5°	2509.8	2513.2	2509.8	2513.2	2513.2	2509.8	2509.8	2509.8
7.5°	2479.1	2482.5	2479.1	2482.5	2482.5	2482.5	2479.1	2479.1
10°	2441.6	2441.6	2441.6	2441.6	2441.6	2438.2	2441.6	2441.6
12.5°	2390.5	2390.5	2390.5	2393.9	2393.9	2390.5	2390.5	2387.1
15°	2335.9	2329.1	2332.5	2335.9	2332.5	2332.5	2332.5	2332.5
17.5°	2260.8	2264.2	2260.8	2260.8	2260.8	2260.8	2264.2	2260.8
20°	2182.4	2182.4	2185.9	2182.4	2182.4	2182.4	2182.4	2179.0
22.5°	2093.8	2090.4	2090.4	2093.8	2093.8	2090.4	2093.8	2093.8
25°	1994.9	1998.3	1994.9	1994.9	1998.3	1998.3	1998.3	1994.9
27.5°	1889.1	1892.5	1896.0	1892.5	1892.5	1892.5	1896.0	1899.4
30°	1780.0	1786.8	1780.0	1780.0	1786.8	1783.4	1786.8	1786.8
32.5°	1664.1	1674.3	1667.5	1674.3	1674.3	1677.7	1674.3	1677.7
35°	1548.1	1558.3	1558.3	1558.3	1561.8	1565.3	1565.3	1561.8
37.5°	1439.0	1442.4	1442.4	1449.2	1452.6	1456.0	1456.0	1452.6
40°	1326.5	1333.3	1336.8	1336.8	1336.8	1343.6	1350.4	1343.6
42.5°	1217.3	1220.7	1224.3	1224.3	1231.1	1234.5	1237.9	1237.9
45°	1111.7	1118.5	1121.9	1125.3	1128.8	1135.6	1132.2	1139.0
47.5°	1002.6	1012.8	1016.2	1019.6	1026.4	1029.8	1033.3	1036.7
50°	903.7	910.5	910.5	917.3	927.5	927.5	934.3	937.8
52.5°	804.8	808.2	811.6	815.0	821.8	828.6	828.6	835.4
55°	709.3	712.7	712.7	716.1	719.5	733.1	736.5	736.5
57.5°	610.4	610.4	617.2	620.6	624.0	630.8	630.8	630.8
60°	514.9	518.3	518.3	521.8	525.2	532.0	535.4	532.0
62.5°	419.5	422.9	422.9	426.3	433.1	436.5	433.1	433.1
65°	330.8	334.2	334.2	337.6	344.4	344.4	341.0	344.4
67.5°	242.1	242.1	242.1	242.1	242.1	242.1	242.1	242.1
70°	153.4	150.0	146.6	150.0	150.0	150.0	146.6	153.4
72.5°	75.1	78.5	78.5	78.5	78.5	78.5	78.5	75.1
75°	34.1	34.1	30.7	30.7	30.7	34.1	34.1	30.7
77.5°	10.2	10.2	10.2	10.2	10.2	10.2	10.2	10.2
80°	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	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)