

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: P585271

Luminaire Tested: **HC880D010-HM86080927-81WWWB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P585271
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: HC880D010-HM86080927-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5136.3 lumens
Efficiency: N/A
Efficacy: 73.4 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

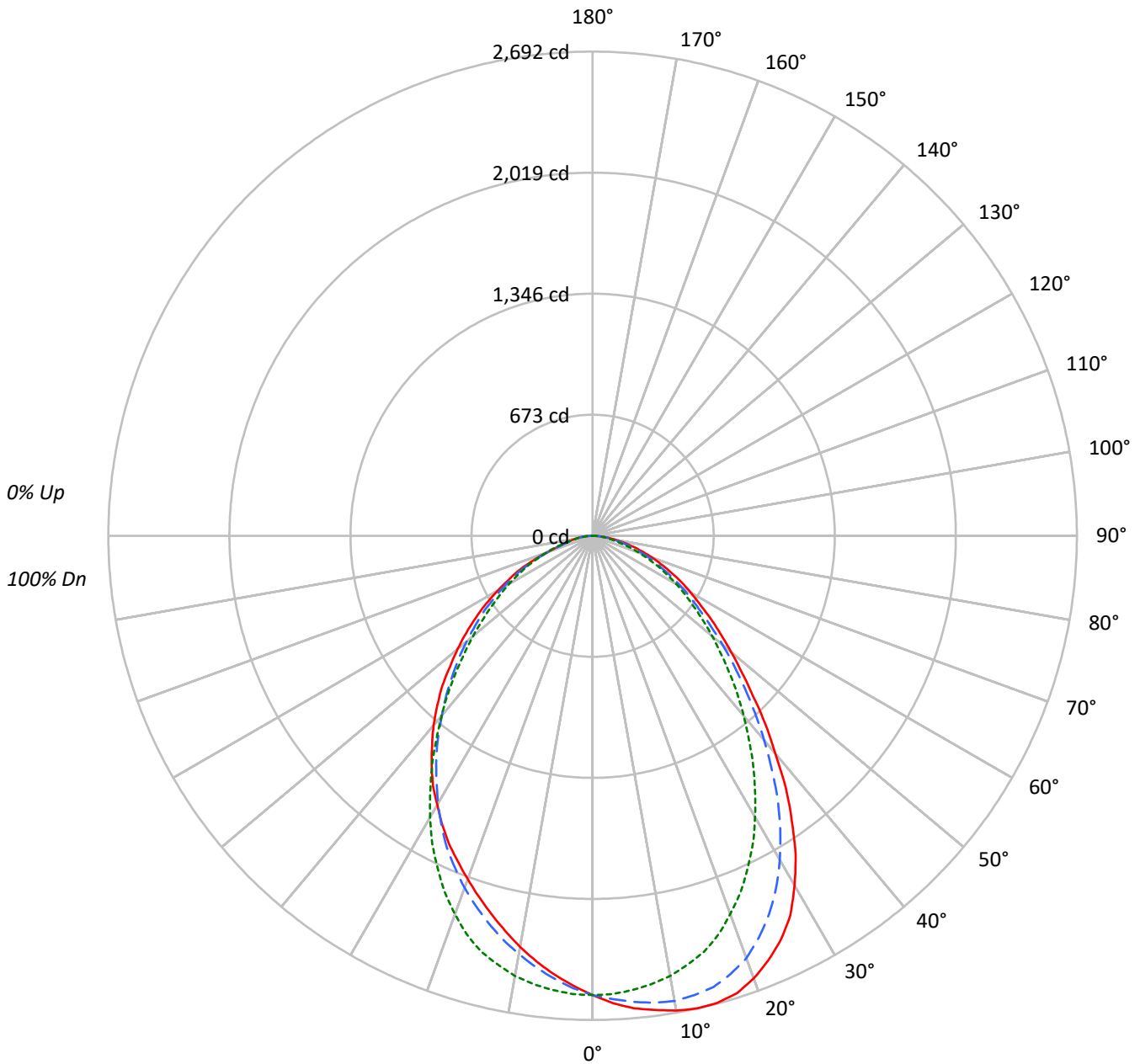
Input Watts (W): 70
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	78747	78747	78747
5°	81632	78490	75794
10°	83938	77807	72694
15°	85812	76433	69483
20°	85947	73447	66661
25°	84298	69365	64302
30°	79951	64327	61482
35°	72650	58582	58717
40°	63517	52568	55341
45°	55052	46827	51572
50°	48203	41592	46985
55°	42907	36859	42515
60°	38706	33106	37361
65°	34936	29113	32557
70°	31403	24523	24208
75°	27665	19444	18145
80°	23192	16106	17403
85°	17973	14152	15391



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	240.9	4.7
10°-20°	678.6	13.2
20°-30°	969.8	18.9
30°-40°	1030.4	20.1
40°-50°	887.2	17.3
50°-60°	663.3	12.9
60°-70°	423.1	8.2
70°-80°	192.5	3.7
80°-90°	50.6	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°	1889.3	36.8
0°-40°	2919.7	56.8
0°-60°	4470.1	87.0
0°-90°	5136.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5136.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2554	2554	2554	2554	2554	
5°	2637	2601	2536	2470	2449	253
15°	2688	2597	2394	2231	2176	757
25°	2478	2322	2039	1915	1890	1134
35°	1930	1796	1556	1516	1560	1202
45°	1262	1193	1074	1103	1183	981
55°	798	733	686	744	791	718
65°	479	424	399	417	446	478
75°	232	200	163	149	152	247
85°	51	44	40	44	44	61
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°	2553.7	2553.7	2553.7	2553.7	2553.7	2553.7	2553.7	2553.7	2553.7	2553.7	2553.7
2.5°	2600.9	2593.7	2597.4	2593.7	2597.4	2597.4	2590.1	2590.1	2590.1	2590.1	2579.2
5°	2637.2	2633.6	2633.6	2629.9	2626.4	2629.9	2626.4	2622.7	2615.4	2611.9	2600.9
7.5°	2659.0	2659.0	2659.0	2659.0	2655.4	2651.7	2648.1	2640.9	2633.6	2626.4	2619.1
10°	2680.7	2684.4	2680.7	2677.2	2673.5	2666.2	2662.6	2655.4	2644.5	2633.6	2626.4
12.5°	2691.7	2691.7	2688.0	2688.0	2680.7	2677.2	2666.2	2655.4	2644.5	2633.6	2615.4
15°	2688.0	2688.0	2684.4	2680.7	2669.9	2666.2	2659.0	2648.1	2629.9	2615.4	2597.4
17.5°	2666.2	2662.6	2655.4	2655.4	2640.9	2637.2	2629.9	2615.4	2597.4	2575.5	2553.7
20°	2619.1	2619.1	2615.4	2611.9	2597.4	2586.4	2579.2	2561.0	2546.5	2521.2	2499.4
22.5°	2553.7	2561.0	2553.7	2546.5	2528.4	2524.7	2513.9	2492.1	2470.4	2441.4	2415.9
25°	2477.6	2474.0	2470.4	2463.1	2448.6	2441.4	2426.9	2405.1	2383.2	2350.7	2321.6
27.5°	2379.7	2365.2	2365.2	2350.7	2339.7	2328.9	2321.6	2299.9	2270.9	2245.4	2209.2
30°	2245.4	2249.1	2230.9	2227.4	2209.2	2201.9	2187.4	2165.6	2140.2	2111.2	2082.2
32.5°	2100.4	2089.4	2089.4	2074.9	2060.4	2049.6	2045.9	2020.6	1998.8	1969.7	1940.7
35°	1929.9	1929.9	1918.9	1915.4	1900.9	1893.6	1882.7	1868.2	1842.8	1817.4	1795.6
37.5°	1762.9	1755.7	1752.1	1744.9	1733.9	1723.1	1723.1	1697.7	1694.1	1665.1	1636.1
40°	1577.9	1585.2	1577.9	1567.1	1563.4	1556.2	1552.6	1538.1	1527.2	1501.8	1483.6
42.5°	1422.0	1414.8	1414.8	1411.1	1396.6	1396.6	1389.3	1382.1	1363.9	1356.6	1334.9
45°	1262.4	1269.6	1258.8	1262.4	1247.9	1247.9	1247.9	1233.3	1218.8	1208.0	1193.4
47.5°	1124.6	1128.1	1128.1	1117.3	1113.6	1113.6	1106.4	1099.1	1088.3	1073.8	1062.8
50°	1004.8	1008.5	1001.3	997.6	990.3	986.6	986.6	972.1	964.9	950.4	943.1
52.5°	896.0	896.0	892.3	892.3	881.5	881.5	874.3	863.3	856.1	848.8	830.8
55°	798.1	798.1	794.4	790.8	790.8	779.9	776.3	765.4	758.1	743.6	732.8
57.5°	703.8	707.3	703.8	700.1	696.5	692.8	685.6	674.8	667.5	656.6	649.3
60°	627.6	627.6	624.0	620.3	613.0	609.5	605.8	598.5	587.6	580.4	569.5
62.5°	555.0	551.3	547.8	544.1	536.8	536.8	529.6	522.3	511.5	504.3	497.0
65°	478.8	478.8	475.2	475.2	471.6	464.3	460.7	457.1	442.5	439.0	424.5
67.5°	410.0	413.5	406.3	406.3	399.0	399.0	395.3	384.5	380.8	373.6	366.3
70°	348.3	348.3	348.3	344.6	337.3	333.8	330.1	322.8	319.2	312.0	304.7
72.5°	286.5	286.5	283.0	283.0	279.3	275.7	272.0	264.8	264.8	257.5	250.3
75°	232.2	232.2	228.5	225.0	221.3	221.3	217.7	214.0	206.8	203.2	199.5
77.5°	177.8	177.8	177.8	174.1	170.5	170.5	170.5	163.2	156.0	156.0	152.3
80°	130.6	130.6	127.0	127.0	123.3	123.3	123.3	119.7	116.0	112.5	108.8
82.5°	87.0	87.0	87.0	87.0	83.5	83.5	83.5	79.8	76.2	76.2	76.2
85°	50.8	50.8	50.8	50.8	47.2	47.2	47.2	47.2	47.2	43.5	43.5
87.5°	21.8	18.2	21.8	18.2	21.8	18.2	21.8	18.2	18.2	18.2	18.2
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°	2553.7	2553.7	2553.7	2553.7	2553.7	2553.7	2553.7	2553.7	2553.7	2553.7	2553.7
2.5°	2582.7	2579.2	2575.5	2571.9	2571.9	2568.2	2561.0	2557.4	2553.7	2550.2	2550.2
5°	2597.4	2593.7	2586.4	2579.2	2575.5	2568.2	2561.0	2553.7	2546.5	2535.7	2532.0
7.5°	2608.2	2597.4	2590.1	2575.5	2571.9	2564.7	2553.7	2542.9	2528.4	2513.9	2503.0
10°	2608.2	2593.7	2582.7	2564.7	2557.4	2550.2	2535.7	2517.5	2499.4	2484.9	2466.7
12.5°	2600.9	2582.7	2564.7	2546.5	2535.7	2524.7	2503.0	2484.9	2463.1	2441.4	2426.9
15°	2575.5	2553.7	2532.0	2510.2	2499.4	2484.9	2463.1	2437.7	2415.9	2394.2	2368.7
17.5°	2528.4	2506.6	2481.2	2455.9	2441.4	2430.4	2397.9	2379.7	2347.0	2325.2	2303.4
20°	2466.7	2441.4	2408.7	2383.2	2365.2	2354.2	2328.9	2296.2	2270.9	2238.2	2216.4
22.5°	2386.9	2354.2	2321.6	2296.2	2278.1	2263.6	2230.9	2198.3	2176.5	2147.5	2122.1
25°	2292.6	2259.9	2227.4	2191.1	2172.9	2158.4	2129.4	2100.4	2071.4	2038.7	2016.9
27.5°	2180.2	2143.9	2114.9	2082.2	2064.1	2042.3	2009.6	1980.6	1951.6	1929.9	1900.9
30°	2056.9	2016.9	1987.9	1955.2	1937.1	1918.9	1886.3	1857.3	1831.9	1806.6	1792.1
32.5°	1908.1	1879.1	1850.1	1817.4	1802.9	1792.1	1759.4	1730.4	1701.3	1679.6	1668.6
35°	1766.6	1733.9	1708.6	1679.6	1661.4	1650.6	1621.6	1596.1	1581.6	1556.2	1541.7
37.5°	1617.9	1592.4	1563.4	1534.4	1523.6	1512.6	1490.9	1465.6	1443.8	1425.6	1418.4
40°	1461.9	1440.1	1414.8	1396.6	1385.7	1374.8	1356.6	1338.6	1324.1	1305.9	1298.6
42.5°	1313.1	1298.6	1276.9	1255.1	1244.3	1240.6	1218.8	1204.3	1197.1	1189.8	1182.6
45°	1178.9	1157.1	1142.6	1128.1	1117.3	1110.1	1099.1	1088.3	1081.0	1073.8	1066.5
47.5°	1048.3	1030.3	1015.8	1004.8	993.9	990.3	983.1	972.1	964.9	964.9	964.9
50°	928.6	914.1	899.6	892.3	888.8	881.5	874.3	870.6	867.0	867.0	867.0
52.5°	823.5	809.0	798.1	790.8	790.8	783.6	776.3	772.6	772.6	772.6	772.6
55°	725.5	714.6	707.3	700.1	692.8	689.3	689.3	689.3	685.6	685.6	689.3
57.5°	638.5	631.2	620.3	613.0	609.5	609.5	605.8	602.2	605.8	609.5	613.0
60°	558.6	551.3	547.8	536.8	536.8	536.8	533.3	533.3	533.3	536.8	540.5
62.5°	486.1	482.5	475.2	471.6	468.0	468.0	464.3	464.3	464.3	464.3	468.0
65°	420.8	413.5	406.3	406.3	406.3	402.7	402.7	395.3	399.0	399.0	395.3
67.5°	359.1	351.8	348.3	344.6	341.0	341.0	337.3	333.8	330.1	330.1	330.1
70°	301.1	293.8	293.8	286.5	286.5	283.0	279.3	279.3	275.7	272.0	268.5
72.5°	243.0	239.5	235.8	232.2	232.2	232.2	228.5	225.0	221.3	217.7	210.5
75°	192.3	192.3	185.0	181.3	181.3	177.8	174.1	170.5	166.8	163.2	159.6
77.5°	148.7	145.1	137.8	134.2	134.2	134.2	130.6	127.0	123.3	119.7	116.0
80°	108.8	105.2	101.5	98.0	98.0	98.0	94.3	94.3	90.7	90.7	90.7
82.5°	72.5	72.5	69.0	69.0	69.0	69.0	65.3	65.3	65.3	65.3	65.3
85°	43.5	43.5	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0	40.0
87.5°	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2
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°	2553.7	2553.7	2553.7	2553.7	2553.7	2553.7	2553.7	2553.7	2553.7	2553.7	2553.7
2.5°	2542.9	2542.9	2535.7	2532.0	2528.4	2532.0	2524.7	2521.2	2517.5	2517.5	2513.9
5°	2521.2	2517.5	2503.0	2499.4	2495.7	2492.1	2484.9	2477.6	2470.4	2466.7	2463.1
7.5°	2492.1	2481.2	2466.7	2463.1	2459.4	2448.6	2437.7	2430.4	2419.6	2415.9	2408.7
10°	2452.2	2437.7	2426.9	2415.9	2408.7	2397.9	2386.9	2376.0	2361.5	2357.9	2347.0
12.5°	2405.1	2386.9	2365.2	2361.5	2350.7	2336.1	2321.6	2310.7	2299.9	2292.6	2281.7
15°	2347.0	2328.9	2307.1	2296.2	2285.4	2274.4	2256.4	2241.9	2230.9	2220.1	2209.2
17.5°	2278.1	2256.4	2238.2	2227.4	2220.1	2201.9	2187.4	2169.2	2158.4	2147.5	2136.6
20°	2194.7	2176.5	2151.1	2140.2	2136.6	2122.1	2103.9	2096.7	2082.2	2071.4	2064.1
22.5°	2100.4	2082.2	2060.4	2053.2	2038.7	2031.4	2013.3	2006.1	1998.8	1987.9	1984.2
25°	1995.1	1977.0	1958.9	1955.2	1944.4	1937.1	1926.2	1915.4	1915.4	1904.4	1904.4
27.5°	1886.3	1868.2	1853.7	1846.4	1842.8	1835.6	1824.6	1821.1	1817.4	1813.8	1813.8
30°	1770.2	1748.4	1741.2	1737.6	1733.9	1726.7	1723.1	1715.8	1719.4	1723.1	1719.4
32.5°	1646.9	1639.6	1625.1	1617.9	1621.6	1617.9	1610.6	1617.9	1614.3	1621.6	1625.1
35°	1527.2	1519.9	1512.6	1512.6	1505.4	1505.4	1505.4	1509.1	1516.3	1519.9	1527.2
37.5°	1411.1	1400.3	1396.6	1392.9	1396.6	1396.6	1396.6	1403.9	1411.1	1418.4	1429.3
40°	1287.8	1280.6	1280.6	1280.6	1280.6	1291.4	1287.8	1295.1	1302.3	1313.1	1324.1
42.5°	1171.6	1171.6	1175.3	1175.3	1175.3	1175.3	1182.6	1193.4	1204.3	1215.3	1226.1
45°	1062.8	1062.8	1062.8	1070.1	1070.1	1073.8	1088.3	1095.5	1102.8	1113.6	1124.6
47.5°	961.3	961.3	964.9	968.6	972.1	979.4	986.6	997.6	1008.5	1015.8	1026.6
50°	867.0	870.6	877.8	885.1	885.1	888.8	899.6	906.9	914.1	925.0	928.6
52.5°	776.3	783.6	790.8	794.4	798.1	805.3	809.0	819.8	823.5	834.3	838.0
55°	692.8	696.5	707.3	711.0	711.0	718.3	725.5	732.8	743.6	743.6	750.9
57.5°	616.7	620.3	627.6	631.2	627.6	638.5	642.1	649.3	653.0	660.3	663.8
60°	540.5	547.8	551.3	551.3	555.0	558.6	565.8	565.8	573.1	580.4	580.4
62.5°	468.0	471.6	475.2	478.8	482.5	478.8	489.7	489.7	497.0	500.6	507.8
65°	399.0	402.7	402.7	406.3	406.3	410.0	410.0	413.5	417.2	424.5	428.0
67.5°	330.1	330.1	330.1	333.8	330.1	333.8	333.8	337.3	337.3	344.6	348.3
70°	268.5	264.8	261.2	261.2	261.2	261.2	257.5	261.2	261.2	264.8	264.8
72.5°	206.8	203.2	199.5	195.8	195.8	192.3	188.6	192.3	192.3	195.8	195.8
75°	156.0	148.7	148.7	148.7	145.1	145.1	145.1	148.7	148.7	148.7	152.3
77.5°	116.0	116.0	112.5	112.5	112.5	116.0	116.0	119.7	119.7	119.7	119.7
80°	87.0	90.7	90.7	90.7	90.7	94.3	94.3	94.3	94.3	98.0	98.0
82.5°	65.3	65.3	65.3	65.3	69.0	69.0	69.0	69.0	69.0	69.0	69.0
85°	40.0	43.5	43.5	40.0	43.5	43.5	43.5	43.5	43.5	43.5	43.5
87.5°	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2
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: P585271

CATALOG NUMBER: HC880D010-HM86080927-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2553.7	2553.7	2553.7	2553.7	2553.7	2553.7	2553.7	2553.7
2.5°	2510.2	2510.2	2510.2	2510.2	2506.6	2506.6	2506.6	2503.0
5°	2455.9	2455.9	2455.9	2448.6	2452.2	2452.2	2444.9	2448.6
7.5°	2401.4	2397.9	2394.2	2394.2	2390.6	2386.9	2383.2	2386.9
10°	2339.7	2328.9	2328.9	2325.2	2325.2	2318.0	2318.0	2321.6
12.5°	2270.9	2263.6	2263.6	2259.9	2256.4	2252.7	2249.1	2249.1
15°	2201.9	2194.7	2191.1	2187.4	2183.7	2176.5	2180.2	2176.5
17.5°	2132.9	2122.1	2122.1	2118.4	2114.9	2107.6	2107.6	2103.9
20°	2053.2	2049.6	2042.3	2045.9	2042.3	2035.1	2031.4	2031.4
22.5°	1973.4	1973.4	1969.7	1969.7	1966.1	1962.4	1958.9	1958.9
25°	1897.2	1893.6	1897.2	1897.2	1886.3	1886.3	1886.3	1889.9
27.5°	1810.1	1813.8	1810.1	1810.1	1810.1	1810.1	1813.8	1810.1
30°	1723.1	1723.1	1723.1	1726.7	1733.9	1730.4	1730.4	1726.7
32.5°	1628.8	1632.4	1632.4	1636.1	1639.6	1646.9	1646.9	1650.6
35°	1534.4	1541.7	1545.3	1541.7	1552.6	1552.6	1559.8	1559.8
37.5°	1436.5	1440.1	1447.4	1451.1	1458.3	1461.9	1465.6	1465.6
40°	1331.3	1345.8	1349.4	1353.1	1363.9	1363.9	1367.6	1374.8
42.5°	1233.3	1247.9	1251.5	1255.1	1262.4	1273.3	1269.6	1276.9
45°	1139.1	1149.9	1153.6	1157.1	1168.1	1171.6	1171.6	1182.6
47.5°	1037.5	1044.8	1048.3	1055.6	1062.8	1070.1	1077.4	1073.8
50°	935.9	946.8	954.1	957.6	968.6	972.1	975.8	979.4
52.5°	845.3	852.5	856.1	859.8	870.6	874.3	877.8	885.1
55°	758.1	761.8	769.0	765.4	776.3	779.9	783.6	790.8
57.5°	671.1	674.8	678.3	678.3	685.6	692.8	696.5	700.1
60°	587.6	594.9	598.5	598.5	598.5	605.8	605.8	605.8
62.5°	511.5	511.5	515.1	515.1	522.3	522.3	522.3	522.3
65°	431.7	435.3	439.0	439.0	446.2	442.5	449.8	446.2
67.5°	348.3	348.3	355.5	355.5	351.8	355.5	355.5	355.5
70°	264.8	264.8	268.5	268.5	268.5	268.5	268.5	268.5
72.5°	195.8	195.8	195.8	199.5	195.8	195.8	199.5	195.8
75°	152.3	152.3	152.3	152.3	152.3	152.3	152.3	152.3
77.5°	119.7	119.7	123.3	123.3	123.3	123.3	123.3	123.3
80°	98.0	98.0	98.0	98.0	101.5	98.0	98.0	98.0
82.5°	72.5	69.0	72.5	69.0	72.5	72.5	72.5	72.5
85°	43.5	43.5	43.5	43.5	43.5	43.5	43.5	43.5
87.5°	18.2	18.2	18.2	18.2	18.2	18.2	18.2	18.2
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)