

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: P584674

Luminaire Tested: **HC845D010-HM82555830-81WWBB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584674
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-HM82555830-81WWBB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4007.0 lumens
Efficiency: N/A
Efficacy: 91.1 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

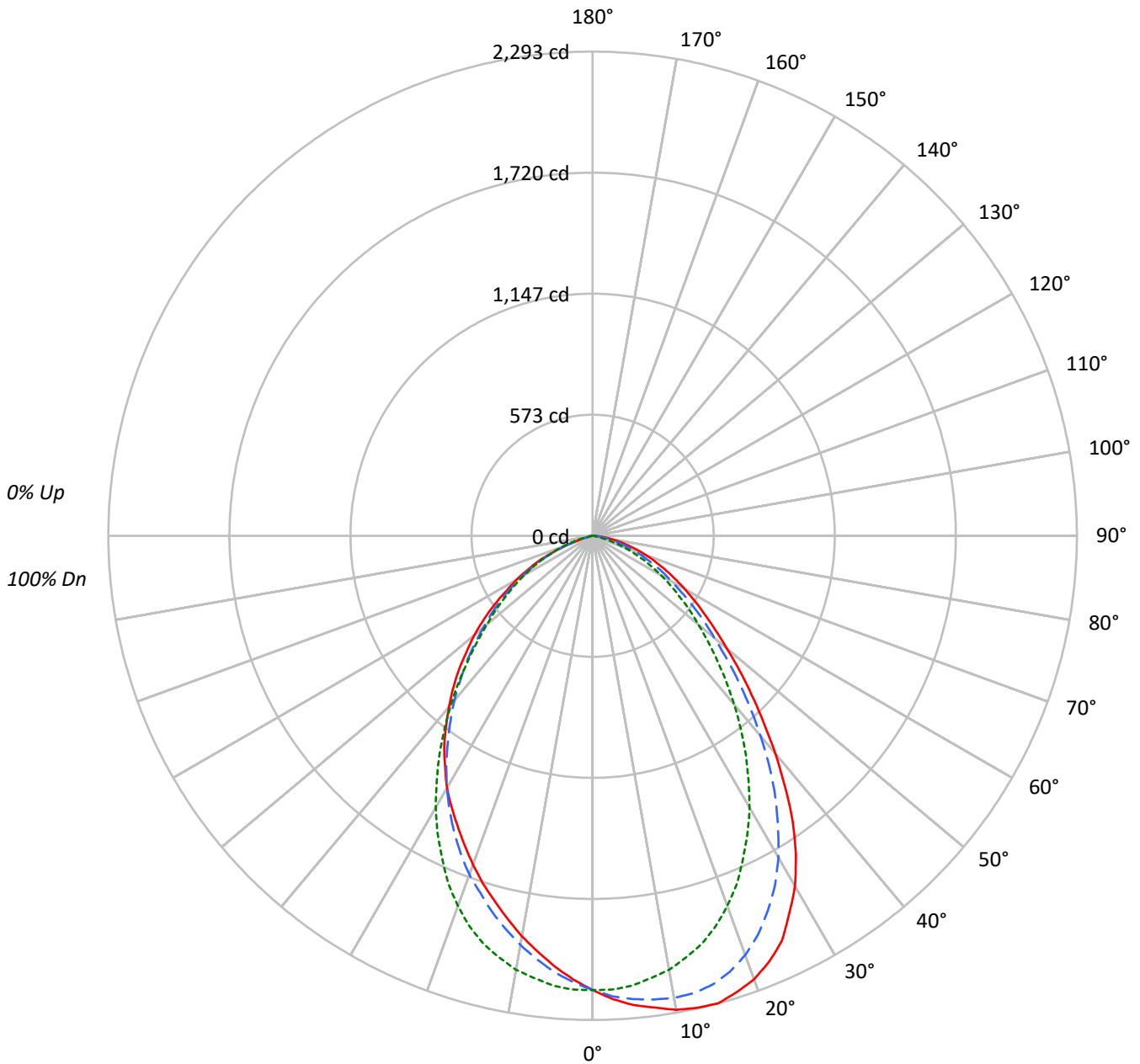
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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			
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°	66335	66335	66335
5°	69074	66192	63403
10°	71385	65345	60310
15°	73189	63851	57179
20°	73336	61201	54342
25°	72097	57327	51530
30°	68237	52897	49116
35°	62218	47571	46118
40°	54105	41941	42585
45°	46418	36318	38982
50°	39645	31317	35020
55°	34746	26967	30429
60°	30935	23004	25582
65°	27449	18767	20416
70°	24352	13921	11604
75°	20302	7280	3455
80°	16000	2291	568
85°	11357	1132	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	202.7	5.1
10°-20°	568.1	14.2
20°-30°	804.1	20.1
30°-40°	841.3	21.0
40°-50°	701.7	17.5
50°-60°	497.6	12.4
60°-70°	286.6	7.2
70°-80°	92.2	2.3
80°-90°	12.7	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°	1575.0	39.3
0°-40°	2416.2	60.3
0°-60°	3615.5	90.2
0°-90°	4007.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4007.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2151	2151	2151	2151	2151	
5°	2232	2203	2138	2074	2048	214
15°	2293	2199	2000	1842	1791	645
25°	2119	1962	1685	1550	1514	967
35°	1653	1508	1264	1196	1225	1025
45°	1064	978	833	842	894	825
55°	646	579	502	527	566	584
65°	376	315	257	257	280	376
75°	170	125	61	29	29	185
85°	32	16	3	0	0	40
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°	2151.2	2151.2	2151.2	2151.2	2151.2	2151.2	2151.2	2151.2	2151.2	2151.2	2151.2
2.5°	2196.2	2193.0	2189.8	2193.0	2189.8	2193.0	2189.8	2189.8	2186.6	2183.3	2183.3
5°	2231.5	2228.3	2228.3	2228.3	2225.2	2221.9	2221.9	2218.7	2212.3	2209.1	2202.7
7.5°	2254.0	2257.3	2257.3	2257.3	2250.9	2250.9	2244.4	2238.0	2231.5	2225.2	2215.4
10°	2279.8	2279.8	2276.6	2273.4	2266.9	2263.8	2260.5	2254.0	2244.4	2231.5	2221.9
12.5°	2289.5	2289.5	2286.2	2279.8	2276.6	2273.4	2270.1	2260.5	2247.7	2231.5	2218.7
15°	2292.6	2286.2	2283.0	2279.8	2273.4	2263.8	2263.8	2250.9	2234.8	2215.4	2199.4
17.5°	2266.9	2270.1	2263.8	2257.3	2247.7	2241.3	2231.5	2221.9	2202.7	2180.1	2164.1
20°	2234.8	2231.5	2228.3	2218.7	2205.8	2202.7	2193.0	2176.9	2160.8	2135.1	2112.6
22.5°	2183.3	2180.1	2173.7	2167.2	2154.4	2148.0	2138.4	2119.0	2096.5	2070.8	2045.1
25°	2119.0	2112.6	2103.0	2090.1	2080.4	2074.0	2061.2	2041.8	2016.2	1987.2	1961.5
27.5°	2016.2	2025.8	2019.3	2000.1	1990.5	1977.6	1974.3	1948.6	1926.1	1897.2	1868.2
30°	1916.4	1916.4	1906.8	1897.2	1881.0	1871.4	1858.6	1839.3	1816.7	1781.4	1758.9
32.5°	1791.1	1787.9	1775.0	1771.7	1758.9	1739.6	1736.4	1710.7	1688.2	1662.4	1633.5
35°	1652.8	1646.3	1633.5	1623.8	1617.4	1607.7	1598.1	1575.6	1553.1	1527.4	1508.1
37.5°	1495.2	1495.2	1492.1	1475.9	1469.5	1463.1	1453.5	1430.9	1418.0	1392.4	1373.0
40°	1344.1	1340.9	1331.2	1328.0	1321.6	1311.9	1305.5	1292.6	1273.3	1254.1	1234.8
42.5°	1196.2	1199.4	1186.5	1189.8	1176.9	1170.4	1167.3	1147.9	1138.3	1119.0	1103.0
45°	1064.4	1061.1	1054.6	1051.5	1045.0	1038.6	1032.2	1022.5	1006.4	987.2	977.5
47.5°	942.2	932.5	932.5	929.3	926.1	913.2	910.0	900.4	890.7	871.4	858.5
50°	826.4	826.4	826.4	823.2	813.5	810.3	803.9	794.2	784.6	771.7	752.5
52.5°	733.1	733.1	733.1	730.0	717.1	713.9	710.6	697.8	684.9	675.3	662.4
55°	646.3	649.5	646.3	639.9	630.3	630.3	620.6	614.2	601.3	591.7	578.8
57.5°	572.3	572.3	566.0	562.7	556.2	553.1	546.6	540.2	524.1	514.5	498.4
60°	501.6	498.4	498.4	492.0	485.5	479.2	475.9	466.3	459.8	443.7	430.8
62.5°	437.3	437.3	430.8	430.8	418.1	418.1	414.8	405.2	395.5	379.5	373.0
65°	376.2	376.2	373.0	369.7	360.1	356.9	353.7	344.0	334.4	324.8	315.1
67.5°	321.5	321.5	315.1	311.9	305.4	302.3	295.8	289.4	279.8	270.1	260.4
70°	270.1	266.9	263.7	260.4	254.1	250.8	244.3	238.0	228.3	221.8	212.2
72.5°	218.6	218.6	215.5	209.0	205.7	202.6	199.4	193.0	183.3	173.6	167.2
75°	170.4	170.4	170.4	164.0	157.5	154.4	154.4	147.9	141.5	131.8	125.4
77.5°	131.8	128.7	125.4	125.4	118.9	115.8	112.5	109.3	99.7	96.4	90.1
80°	90.1	93.3	90.1	86.8	83.6	80.4	80.4	73.9	70.7	64.3	57.8
82.5°	61.1	57.8	57.8	54.7	54.7	51.5	51.5	45.0	41.8	38.6	35.4
85°	32.1	32.1	29.0	29.0	29.0	25.7	25.7	22.5	22.5	19.2	16.1
87.5°	9.6	9.6	9.6	9.6	9.6	9.6	9.6	9.6	6.5	6.5	6.5
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°	2151.2	2151.2	2151.2	2151.2	2151.2	2151.2	2151.2	2151.2	2151.2	2151.2	2151.2
2.5°	2180.1	2173.7	2170.5	2170.5	2167.2	2164.1	2160.8	2157.6	2151.2	2151.2	2144.7
5°	2196.2	2189.8	2186.6	2176.9	2170.5	2170.5	2157.6	2154.4	2144.7	2138.4	2131.9
7.5°	2209.1	2196.2	2186.6	2176.9	2170.5	2164.1	2151.2	2138.4	2125.5	2112.6	2106.1
10°	2209.1	2196.2	2180.1	2164.1	2157.6	2151.2	2135.1	2115.9	2099.8	2086.9	2070.8
12.5°	2202.7	2183.3	2164.1	2151.2	2138.4	2128.6	2109.4	2090.1	2070.8	2045.1	2032.2
15°	2183.3	2157.6	2138.4	2115.9	2106.1	2090.1	2074.0	2045.1	2022.6	2000.1	1984.0
17.5°	2144.7	2112.6	2090.1	2067.5	2051.5	2041.8	2016.2	1990.5	1964.7	1939.0	1919.6
20°	2086.9	2057.9	2032.2	2003.2	1990.5	1977.6	1945.4	1919.6	1893.9	1865.0	1845.7
22.5°	2016.2	1987.2	1951.9	1929.4	1910.0	1893.9	1865.0	1836.1	1810.3	1784.6	1758.9
25°	1929.4	1900.4	1868.2	1832.8	1820.0	1804.0	1771.7	1742.8	1713.9	1684.9	1662.4
27.5°	1836.1	1797.5	1771.7	1733.1	1720.3	1704.3	1668.8	1636.7	1611.0	1588.5	1562.8
30°	1723.5	1694.6	1659.2	1623.8	1611.0	1594.9	1566.0	1537.0	1511.3	1485.6	1459.8
32.5°	1601.4	1572.4	1537.0	1511.3	1492.1	1479.2	1450.2	1424.5	1398.8	1373.0	1350.5
35°	1472.7	1440.6	1414.9	1389.1	1373.0	1356.9	1328.0	1305.5	1286.2	1263.7	1241.2
37.5°	1340.9	1318.3	1292.6	1263.7	1247.6	1234.8	1212.3	1186.5	1170.4	1151.2	1135.1
40°	1212.3	1186.5	1164.0	1138.3	1125.4	1115.8	1093.2	1074.0	1057.9	1041.9	1032.2
42.5°	1080.5	1057.9	1035.4	1019.3	1009.7	1000.0	983.9	961.4	951.8	935.7	926.1
45°	958.2	939.0	922.8	900.4	893.9	887.5	868.1	852.1	842.4	832.8	826.4
47.5°	842.4	829.7	810.3	797.4	787.8	781.3	768.5	755.6	746.0	739.6	733.1
50°	742.7	726.7	713.9	701.0	694.5	684.9	672.0	665.6	659.2	652.8	652.8
52.5°	649.5	633.4	620.6	610.9	604.6	598.1	588.5	585.2	578.8	578.8	575.6
55°	562.7	553.1	540.2	527.4	524.1	520.9	514.5	508.0	504.9	501.6	504.9
57.5°	488.8	479.2	466.3	456.6	453.4	450.2	446.9	440.6	437.3	437.3	437.3
60°	421.2	411.6	402.0	392.3	392.3	385.9	382.6	379.5	376.2	373.0	373.0
62.5°	360.1	350.5	340.9	334.4	331.3	328.0	321.5	318.4	315.1	315.1	311.9
65°	305.4	292.7	289.4	279.8	276.6	273.3	270.1	263.7	260.4	257.2	254.1
67.5°	250.8	244.3	234.7	228.3	225.1	221.8	218.6	212.2	209.0	205.7	199.4
70°	202.6	196.1	189.7	183.3	180.1	176.9	170.4	164.0	160.8	154.4	144.7
72.5°	157.5	151.1	144.7	138.3	135.0	131.8	125.4	118.9	112.5	106.2	99.7
75°	118.9	112.5	102.9	96.4	93.3	93.3	83.6	77.2	70.7	61.1	54.7
77.5°	83.6	73.9	70.7	64.3	61.1	54.7	48.2	41.8	35.4	32.1	25.7
80°	54.7	48.2	41.8	38.6	35.4	32.1	29.0	22.5	16.1	12.9	9.6
82.5°	32.1	29.0	25.7	22.5	19.2	16.1	12.9	12.9	9.6	6.5	3.2
85°	16.1	12.9	9.6	9.6	6.5	6.5	6.5	3.2	3.2	3.2	3.2
87.5°	6.5	3.2	3.2	3.2	3.2	3.2	3.2	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°	2151.2	2151.2	2151.2	2151.2	2151.2	2151.2	2151.2	2151.2	2151.2	2151.2	2151.2
2.5°	2141.5	2138.4	2135.1	2131.9	2131.9	2125.5	2125.5	2122.2	2115.9	2112.6	2112.6
5°	2122.2	2112.6	2106.1	2103.0	2099.8	2090.1	2086.9	2080.4	2074.0	2067.5	2064.4
7.5°	2093.3	2077.3	2070.8	2067.5	2057.9	2048.3	2041.8	2032.2	2022.6	2012.9	2009.7
10°	2057.9	2041.8	2025.8	2019.3	2009.7	2003.2	1990.5	1977.6	1967.9	1958.2	1948.6
12.5°	2012.9	1993.6	1977.6	1971.1	1961.5	1948.6	1929.4	1922.9	1906.8	1900.4	1887.5
15°	1961.5	1939.0	1922.9	1913.3	1903.5	1884.3	1871.4	1858.6	1842.5	1836.1	1823.2
17.5°	1897.2	1871.4	1855.3	1845.7	1839.3	1823.2	1804.0	1787.9	1771.7	1765.4	1755.6
20°	1820.0	1804.0	1781.4	1771.7	1765.4	1746.0	1726.8	1720.3	1707.4	1694.6	1684.9
22.5°	1733.1	1717.0	1694.6	1684.9	1681.7	1665.7	1649.6	1640.0	1630.2	1620.6	1611.0
25°	1643.1	1623.8	1604.5	1598.1	1591.6	1578.9	1566.0	1559.5	1549.9	1543.4	1537.0
27.5°	1546.7	1527.4	1511.3	1501.7	1495.2	1485.6	1479.2	1472.7	1466.2	1459.8	1456.6
30°	1443.7	1424.5	1411.6	1405.1	1398.8	1395.5	1385.9	1382.7	1379.4	1373.0	1376.3
32.5°	1340.9	1324.8	1311.9	1302.3	1302.3	1295.8	1292.6	1292.6	1289.5	1289.5	1289.5
35°	1228.4	1218.6	1209.0	1205.8	1202.6	1199.4	1196.2	1199.4	1196.2	1199.4	1202.6
37.5°	1125.4	1115.8	1109.3	1106.1	1103.0	1106.1	1103.0	1103.0	1106.1	1112.6	1115.8
40°	1019.3	1012.9	1006.4	1009.7	1006.4	1006.4	1006.4	1016.1	1019.3	1022.5	1025.8
42.5°	919.6	913.2	910.0	910.0	913.2	910.0	916.5	919.6	926.1	935.7	942.2
45°	823.2	819.9	819.9	823.2	819.9	826.4	826.4	832.8	842.4	848.9	855.4
47.5°	733.1	733.1	733.1	736.4	736.4	739.6	746.0	749.2	755.6	762.1	768.5
50°	649.5	652.8	655.9	655.9	655.9	662.4	668.8	672.0	675.3	678.5	688.1
52.5°	575.6	578.8	578.8	582.0	585.2	588.5	591.7	598.1	601.3	607.7	610.9
55°	504.9	504.9	511.3	514.5	514.5	514.5	520.9	520.9	527.4	530.5	537.0
57.5°	437.3	440.6	440.6	443.7	443.7	446.9	450.2	453.4	456.6	459.8	463.0
60°	373.0	373.0	373.0	376.2	379.5	382.6	379.5	385.9	385.9	392.3	395.5
62.5°	311.9	315.1	315.1	315.1	315.1	315.1	315.1	318.4	321.5	324.8	328.0
65°	254.1	254.1	254.1	250.8	254.1	250.8	254.1	257.2	257.2	260.4	263.7
67.5°	196.1	196.1	189.7	189.7	193.0	193.0	193.0	193.0	189.7	196.1	196.1
70°	141.5	138.3	135.0	131.8	131.8	128.7	128.7	125.4	125.4	125.4	125.4
72.5°	93.3	86.8	80.4	77.2	73.9	73.9	67.6	64.3	67.6	67.6	67.6
75°	48.2	41.8	38.6	35.4	32.1	32.1	29.0	29.0	29.0	29.0	29.0
77.5°	19.2	16.1	12.9	12.9	9.6	9.6	9.6	9.6	9.6	9.6	9.6
80°	6.5	6.5	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
82.5°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
85°	3.2	0.0	0.0	3.2	0.0	3.2	3.2	3.2	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: P584674

CATALOG NUMBER: HC845D010-HM82555830-81WWBB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2151.2	2151.2	2151.2	2151.2	2151.2	2151.2	2151.2	2151.2
2.5°	2109.4	2109.4	2106.1	2109.4	2103.0	2106.1	2103.0	2103.0
5°	2061.2	2054.7	2054.7	2054.7	2051.5	2051.5	2048.3	2048.3
7.5°	2003.2	2000.1	1996.8	1993.6	1990.5	1987.2	1987.2	1987.2
10°	1945.4	1939.0	1939.0	1935.8	1929.4	1926.1	1926.1	1926.1
12.5°	1877.9	1874.7	1871.4	1871.4	1858.6	1861.8	1858.6	1858.6
15°	1813.6	1810.3	1810.3	1800.7	1794.2	1794.2	1794.2	1791.1
17.5°	1746.0	1742.8	1739.6	1733.1	1726.8	1726.8	1723.5	1726.8
20°	1675.3	1672.1	1665.7	1665.7	1662.4	1659.2	1652.8	1656.0
22.5°	1604.5	1598.1	1594.9	1594.9	1591.6	1591.6	1585.3	1585.3
25°	1530.5	1527.4	1524.2	1527.4	1520.9	1520.9	1514.5	1514.5
27.5°	1453.5	1450.2	1450.2	1450.2	1447.0	1450.2	1447.0	1447.0
30°	1376.3	1376.3	1373.0	1373.0	1376.3	1373.0	1376.3	1379.4
32.5°	1292.6	1292.6	1295.8	1295.8	1299.1	1299.1	1299.1	1299.1
35°	1205.8	1212.3	1212.3	1215.5	1218.6	1221.9	1221.9	1225.1
37.5°	1125.4	1128.7	1131.8	1135.1	1141.6	1141.6	1141.6	1141.6
40°	1038.6	1041.9	1048.3	1045.0	1057.9	1061.1	1057.9	1057.9
42.5°	948.6	955.1	958.2	964.7	967.8	974.3	977.5	977.5
45°	865.0	868.1	874.6	881.0	884.3	893.9	893.9	893.9
47.5°	778.2	784.6	787.8	794.2	797.4	807.1	810.3	807.1
50°	694.5	701.0	707.4	707.4	717.1	720.2	726.7	730.0
52.5°	614.2	617.3	623.8	627.0	633.4	639.9	643.2	646.3
55°	537.0	540.2	546.6	546.6	556.2	559.5	566.0	566.0
57.5°	466.3	469.4	475.9	472.7	479.2	485.5	485.5	482.3
60°	398.7	398.7	398.7	405.2	408.3	411.6	414.8	414.8
62.5°	328.0	334.4	337.6	337.6	340.9	344.0	344.0	340.9
65°	263.7	270.1	273.3	273.3	276.6	276.6	276.6	279.8
67.5°	199.4	199.4	199.4	202.6	199.4	199.4	199.4	199.4
70°	125.4	125.4	125.4	125.4	122.2	125.4	125.4	128.7
72.5°	67.6	67.6	67.6	67.6	67.6	67.6	67.6	67.6
75°	29.0	29.0	29.0	32.1	29.0	29.0	29.0	29.0
77.5°	12.9	9.6	12.9	12.9	9.6	9.6	9.6	9.6
80°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
82.5°	3.2	3.2	3.2	3.2	3.2	3.2	3.2	3.2
85°	0.0	3.2	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



Report Generated By 670245859 / DESKTOP-HRDQ47P





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













(END OF REPORT)