

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: P584742

Luminaire Tested: **HC845D010-HM82555930-81WWBB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584742
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-HM82555930-81WWBB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3939.8 lumens
Efficiency: N/A
Efficacy: 89.5 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

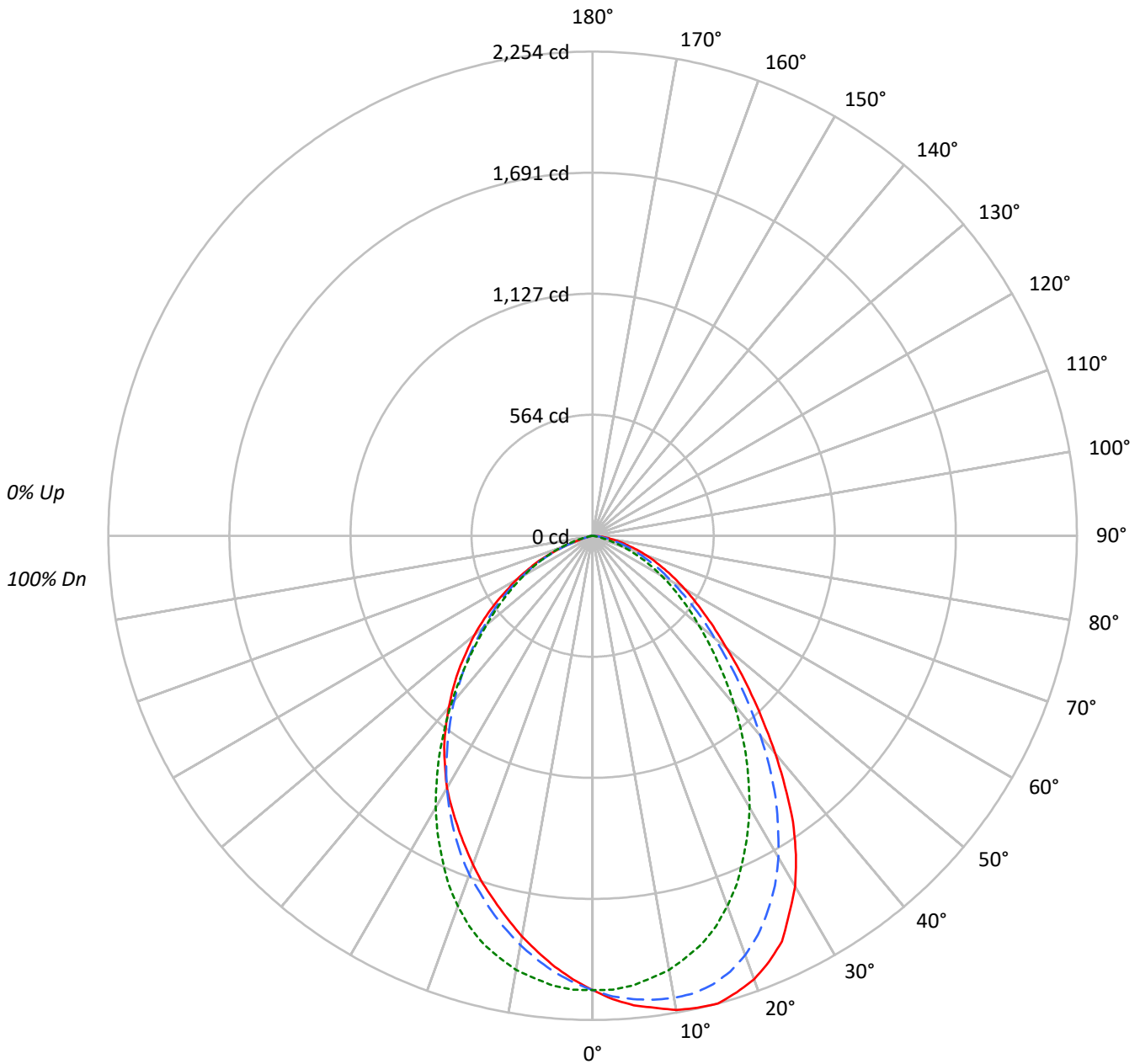
Input Watts (W): 44
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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°	65225	65225	65225
5°	67916	65081	62338
10°	70189	64249	59299
15°	71967	62779	56218
20°	72105	60177	53430
25°	70889	56364	50665
30°	67094	52007	48293
35°	61176	46777	45346
40°	53196	41236	41872
45°	45633	35712	38328
50°	38978	30784	34425
55°	34165	26515	29918
60°	30417	22622	25156
65°	26997	18453	20073
70°	23946	13686	11396
75°	19968	7160	3396
80°	15734	2255	568
85°	11216	1132	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.3	5.1
10°-20°	558.6	14.2
20°-30°	790.6	20.1
30°-40°	827.2	21.0
40°-50°	689.9	17.5
50°-60°	489.2	12.4
60°-70°	281.8	7.2
70°-80°	90.7	2.3
80°-90°	12.5	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°	1548.5	39.3
0°-40°	2375.7	60.3
0°-60°	3554.9	90.2
0°-90°	3939.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3939.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2115	2115	2115	2115	2115	
5°	2194	2166	2102	2039	2014	211
15°	2254	2162	1966	1812	1761	634
25°	2084	1928	1657	1524	1489	951
35°	1625	1483	1243	1176	1205	1007
45°	1046	961	819	828	879	811
55°	636	569	493	518	556	574
65°	370	310	253	253	275	370
75°	168	123	60	28	28	182
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°	2115.2	2115.2	2115.2	2115.2	2115.2	2115.2	2115.2	2115.2	2115.2	2115.2	2115.2
2.5°	2159.4	2156.2	2153.0	2156.2	2153.0	2156.2	2153.0	2153.0	2149.9	2146.7	2146.7
5°	2194.1	2190.9	2190.9	2190.9	2187.9	2184.7	2184.7	2181.5	2175.2	2172.0	2165.7
7.5°	2216.3	2219.4	2219.4	2219.4	2213.1	2213.1	2206.8	2200.4	2194.1	2187.9	2178.4
10°	2241.6	2241.6	2238.4	2235.3	2228.9	2225.8	2222.6	2216.3	2206.8	2194.1	2184.7
12.5°	2251.1	2251.1	2247.9	2241.6	2238.4	2235.3	2232.1	2222.6	2209.9	2194.1	2181.5
15°	2254.3	2247.9	2244.8	2241.6	2235.3	2225.8	2225.8	2213.1	2197.3	2178.4	2162.5
17.5°	2228.9	2232.1	2225.8	2219.4	2209.9	2203.6	2194.1	2184.7	2165.7	2143.5	2127.7
20°	2197.3	2194.1	2190.9	2181.5	2168.9	2165.7	2156.2	2140.4	2124.5	2099.3	2077.1
22.5°	2146.7	2143.5	2137.2	2130.9	2118.3	2112.0	2102.5	2083.5	2061.3	2036.1	2010.8
25°	2083.5	2077.1	2067.6	2055.1	2045.6	2039.3	2026.6	2007.6	1982.4	1953.9	1928.5
27.5°	1982.4	1991.8	1985.5	1966.5	1957.0	1944.4	1941.2	1916.0	1893.8	1865.3	1836.9
30°	1884.3	1884.3	1874.8	1865.3	1849.6	1840.1	1827.4	1808.4	1786.2	1751.5	1729.4
32.5°	1761.0	1757.9	1745.2	1742.0	1729.4	1710.5	1707.3	1682.0	1659.8	1634.6	1606.1
35°	1625.1	1618.7	1606.1	1596.6	1590.2	1580.9	1571.4	1549.2	1527.0	1501.8	1482.8
37.5°	1470.1	1470.1	1467.0	1451.1	1444.9	1438.6	1429.1	1406.9	1394.2	1369.0	1350.0
40°	1321.5	1318.3	1309.0	1305.8	1299.4	1289.9	1283.6	1270.9	1251.9	1233.1	1214.1
42.5°	1176.2	1179.3	1166.7	1169.8	1157.2	1150.8	1147.7	1128.7	1119.2	1100.3	1084.4
45°	1046.4	1043.4	1037.0	1033.9	1027.5	1021.2	1014.9	1005.4	989.5	970.7	961.2
47.5°	926.3	916.8	916.8	913.6	910.5	897.9	894.8	885.3	875.8	856.8	844.1
50°	812.5	812.5	812.5	809.4	799.9	796.7	790.4	780.9	771.5	758.8	739.8
52.5°	720.8	720.8	720.8	717.6	705.1	701.9	698.8	686.1	673.4	663.9	651.2
55°	635.5	638.7	635.5	629.2	619.7	619.7	610.2	603.9	591.2	581.7	569.1
57.5°	562.8	562.8	556.5	553.3	547.0	543.8	537.5	531.1	515.3	505.8	490.1
60°	493.2	490.1	490.1	483.7	477.4	471.1	467.9	458.4	452.1	436.4	423.7
62.5°	430.0	430.0	423.7	423.7	411.0	411.0	407.9	398.4	388.8	373.0	366.8
65°	370.0	370.0	366.8	363.6	354.1	351.0	347.8	338.3	328.8	319.3	309.8
67.5°	316.1	316.1	309.8	306.6	300.4	297.2	290.9	284.6	275.1	265.6	256.1
70°	265.6	262.4	259.2	256.1	249.7	246.6	240.2	234.0	224.5	218.2	208.7
72.5°	215.0	215.0	211.8	205.5	202.3	199.2	196.0	189.7	180.2	170.7	164.5
75°	167.6	167.6	167.6	161.3	155.0	151.8	151.8	145.5	139.1	129.6	123.3
77.5°	129.6	126.4	123.3	123.3	116.9	113.8	110.6	107.4	98.1	94.9	88.6
80°	88.6	91.7	88.6	85.4	82.2	79.1	79.1	72.7	69.6	63.2	56.9
82.5°	60.1	56.9	56.9	53.7	53.7	50.6	50.6	44.2	41.1	37.9	34.7
85°	31.7	31.7	28.5	28.5	28.5	25.3	25.3	22.2	22.2	19.0	15.8
87.5°	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	6.3	6.3	6.3
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°	2115.2	2115.2	2115.2	2115.2	2115.2	2115.2	2115.2	2115.2	2115.2	2115.2	2115.2
2.5°	2143.5	2137.2	2134.0	2134.0	2130.9	2127.7	2124.5	2121.5	2115.2	2115.2	2108.8
5°	2159.4	2153.0	2149.9	2140.4	2134.0	2134.0	2121.5	2118.3	2108.8	2102.5	2096.2
7.5°	2172.0	2159.4	2149.9	2140.4	2134.0	2127.7	2115.2	2102.5	2089.8	2077.1	2070.8
10°	2172.0	2159.4	2143.5	2127.7	2121.5	2115.2	2099.3	2080.3	2064.5	2051.9	2036.1
12.5°	2165.7	2146.7	2127.7	2115.2	2102.5	2093.0	2074.0	2055.1	2036.1	2010.8	1998.1
15°	2146.7	2121.5	2102.5	2080.3	2070.8	2055.1	2039.3	2010.8	1988.6	1966.5	1950.7
17.5°	2108.8	2077.1	2055.1	2032.9	2017.1	2007.6	1982.4	1957.0	1931.7	1906.5	1887.5
20°	2051.9	2023.4	1998.1	1969.7	1957.0	1944.4	1912.8	1887.5	1862.1	1833.8	1814.7
22.5°	1982.4	1953.9	1919.1	1897.0	1878.0	1862.1	1833.8	1805.2	1780.0	1754.7	1729.4
25°	1897.0	1868.5	1836.9	1802.1	1789.4	1773.7	1742.0	1713.6	1685.1	1656.6	1634.6
27.5°	1805.2	1767.4	1742.0	1704.1	1691.5	1675.6	1640.9	1609.2	1583.9	1561.8	1536.5
30°	1694.6	1666.1	1631.4	1596.6	1583.9	1568.2	1539.7	1511.3	1486.0	1460.6	1435.4
32.5°	1574.5	1546.0	1511.3	1486.0	1467.0	1454.3	1425.9	1400.6	1375.3	1350.0	1327.8
35°	1448.1	1416.4	1391.1	1365.8	1350.0	1334.2	1305.8	1283.6	1264.6	1242.6	1220.4
37.5°	1318.3	1296.3	1270.9	1242.6	1226.7	1214.1	1191.9	1166.7	1150.8	1131.8	1116.0
40°	1191.9	1166.7	1144.5	1119.2	1106.6	1097.1	1074.9	1055.9	1040.2	1024.4	1014.9
42.5°	1062.3	1040.2	1018.0	1002.2	992.7	983.2	967.5	945.3	935.8	920.0	910.5
45°	942.2	923.2	907.4	885.3	878.9	872.6	853.6	837.9	828.4	818.9	812.5
47.5°	828.4	815.7	796.7	784.0	774.6	768.3	755.6	743.0	733.5	727.1	720.8
50°	730.3	714.5	701.9	689.3	682.9	673.4	660.8	654.4	648.1	641.7	641.7
52.5°	638.7	622.9	610.2	600.7	594.4	588.0	578.5	575.4	569.1	569.1	566.0
55°	553.3	543.8	531.1	518.5	515.3	512.1	505.8	499.6	496.4	493.2	496.4
57.5°	480.6	471.1	458.4	448.9	445.7	442.6	439.4	433.2	430.0	430.0	430.0
60°	414.2	404.7	395.2	385.7	385.7	379.3	376.2	373.0	370.0	366.8	366.8
62.5°	354.1	344.6	335.1	328.8	325.6	322.5	316.1	313.0	309.8	309.8	306.6
65°	300.4	287.7	284.6	275.1	271.9	268.7	265.6	259.2	256.1	252.9	249.7
67.5°	246.6	240.2	230.8	224.5	221.3	218.2	215.0	208.7	205.5	202.3	196.0
70°	199.2	192.8	186.5	180.2	177.0	173.8	167.6	161.3	158.1	151.8	142.3
72.5°	155.0	148.6	142.3	136.0	132.8	129.6	123.3	116.9	110.6	104.3	98.1
75°	116.9	110.6	101.1	94.9	91.7	91.7	82.2	75.9	69.6	60.1	53.7
77.5°	82.2	72.7	69.6	63.2	60.1	53.7	47.4	41.1	34.7	31.7	25.3
80°	53.7	47.4	41.1	37.9	34.7	31.7	28.5	22.2	15.8	12.7	9.5
82.5°	31.7	28.5	25.3	22.2	19.0	15.8	12.7	12.7	9.5	6.3	3.2
85°	15.8	12.7	9.5	9.5	6.3	6.3	6.3	3.2	3.2	3.2	3.2
87.5°	6.3	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°	2115.2	2115.2	2115.2	2115.2	2115.2	2115.2	2115.2	2115.2	2115.2	2115.2	2115.2
2.5°	2105.7	2102.5	2099.3	2096.2	2096.2	2089.8	2089.8	2086.6	2080.3	2077.1	2077.1
5°	2086.6	2077.1	2070.8	2067.6	2064.5	2055.1	2051.9	2045.6	2039.3	2032.9	2029.8
7.5°	2058.1	2042.4	2036.1	2032.9	2023.4	2013.9	2007.6	1998.1	1988.6	1979.2	1976.0
10°	2023.4	2007.6	1991.8	1985.5	1976.0	1969.7	1957.0	1944.4	1934.9	1925.4	1916.0
12.5°	1979.2	1960.2	1944.4	1938.0	1928.5	1916.0	1897.0	1890.6	1874.8	1868.5	1855.8
15°	1928.5	1906.5	1890.6	1881.1	1871.6	1852.8	1840.1	1827.4	1811.6	1805.2	1792.6
17.5°	1865.3	1840.1	1824.2	1814.7	1808.4	1792.6	1773.7	1757.9	1742.0	1735.7	1726.2
20°	1789.4	1773.7	1751.5	1742.0	1735.7	1716.8	1697.8	1691.5	1678.8	1666.1	1656.6
22.5°	1704.1	1688.3	1666.1	1656.6	1653.5	1637.7	1621.9	1612.4	1602.9	1593.4	1583.9
25°	1615.6	1596.6	1577.7	1571.4	1565.0	1552.3	1539.7	1533.3	1523.8	1517.5	1511.3
27.5°	1520.7	1501.8	1486.0	1476.5	1470.1	1460.6	1454.3	1448.1	1441.7	1435.4	1432.2
30°	1419.6	1400.6	1387.9	1381.7	1375.3	1372.2	1362.7	1359.5	1356.3	1350.0	1353.2
32.5°	1318.3	1302.6	1289.9	1280.4	1280.4	1274.1	1270.9	1270.9	1267.8	1267.8	1267.8
35°	1207.7	1198.2	1188.7	1185.6	1182.4	1179.3	1176.2	1179.3	1176.2	1179.3	1182.4
37.5°	1106.6	1097.1	1090.8	1087.6	1084.4	1087.6	1084.4	1084.4	1087.6	1093.9	1097.1
40°	1002.2	995.9	989.5	992.7	989.5	989.5	989.5	999.0	1002.2	1005.4	1008.5
42.5°	904.3	897.9	894.8	894.8	897.9	894.8	901.1	904.3	910.5	920.0	926.3
45°	809.4	806.2	806.2	809.4	806.2	812.5	812.5	818.9	828.4	834.7	841.0
47.5°	720.8	720.8	720.8	724.0	724.0	727.1	733.5	736.6	743.0	749.3	755.6
50°	638.7	641.7	644.9	644.9	644.9	651.2	657.6	660.8	663.9	667.1	676.6
52.5°	566.0	569.1	569.1	572.3	575.4	578.5	581.7	588.0	591.2	597.5	600.7
55°	496.4	496.4	502.7	505.8	505.8	505.8	512.1	512.1	518.5	521.6	528.0
57.5°	430.0	433.2	433.2	436.4	436.4	439.4	442.6	445.7	448.9	452.1	455.2
60°	366.8	366.8	366.8	370.0	373.0	376.2	373.0	379.3	379.3	385.7	388.8
62.5°	306.6	309.8	309.8	309.8	309.8	309.8	309.8	313.0	316.1	319.3	322.5
65°	249.7	249.7	249.7	246.6	249.7	246.6	249.7	252.9	252.9	256.1	259.2
67.5°	192.8	192.8	186.5	186.5	189.7	189.7	189.7	189.7	186.5	192.8	192.8
70°	139.1	136.0	132.8	129.6	129.6	126.4	126.4	123.3	123.3	123.3	123.3
72.5°	91.7	85.4	79.1	75.9	72.7	72.7	66.4	63.2	66.4	66.4	66.4
75°	47.4	41.1	37.9	34.7	31.7	31.7	28.5	28.5	28.5	28.5	28.5
77.5°	19.0	15.8	12.7	12.7	9.5	9.5	9.5	9.5	9.5	9.5	9.5
80°	6.3	6.3	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: P584742

CATALOG NUMBER: HC845D010-HM82555930-81WWBB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2115.2	2115.2	2115.2	2115.2	2115.2	2115.2	2115.2	2115.2
2.5°	2074.0	2074.0	2070.8	2074.0	2067.6	2070.8	2067.6	2067.6
5°	2026.6	2020.3	2020.3	2020.3	2017.1	2017.1	2013.9	2013.9
7.5°	1969.7	1966.5	1963.4	1960.2	1957.0	1953.9	1953.9	1953.9
10°	1912.8	1906.5	1906.5	1903.3	1897.0	1893.8	1893.8	1893.8
12.5°	1846.4	1843.3	1840.1	1840.1	1827.4	1830.6	1827.4	1827.4
15°	1783.2	1780.0	1780.0	1770.5	1764.2	1764.2	1764.2	1761.0
17.5°	1716.8	1713.6	1710.5	1704.1	1697.8	1697.8	1694.6	1697.8
20°	1647.2	1644.1	1637.7	1637.7	1634.6	1631.4	1625.1	1628.2
22.5°	1577.7	1571.4	1568.2	1568.2	1565.0	1565.0	1558.7	1558.7
25°	1505.0	1501.8	1498.6	1501.8	1495.5	1495.5	1489.1	1489.1
27.5°	1429.1	1425.9	1425.9	1425.9	1422.7	1425.9	1422.7	1422.7
30°	1353.2	1353.2	1350.0	1350.0	1353.2	1350.0	1353.2	1356.3
32.5°	1270.9	1270.9	1274.1	1274.1	1277.3	1277.3	1277.3	1277.3
35°	1185.6	1191.9	1191.9	1195.1	1198.2	1201.4	1201.4	1204.6
37.5°	1106.6	1109.8	1112.8	1116.0	1122.3	1122.3	1122.3	1122.3
40°	1021.2	1024.4	1030.7	1027.5	1040.2	1043.4	1040.2	1040.2
42.5°	932.7	939.0	942.2	948.5	951.7	958.0	961.2	961.2
45°	850.4	853.6	859.9	866.3	869.4	878.9	878.9	878.9
47.5°	765.1	771.5	774.6	780.9	784.0	793.5	796.7	793.5
50°	682.9	689.3	695.6	695.6	705.1	708.1	714.5	717.6
52.5°	603.9	607.0	613.4	616.5	622.9	629.2	632.4	635.5
55°	528.0	531.1	537.5	537.5	547.0	550.1	556.5	556.5
57.5°	458.4	461.6	467.9	464.7	471.1	477.4	477.4	474.2
60°	392.0	392.0	392.0	398.4	401.5	404.7	407.9	407.9
62.5°	322.5	328.8	332.0	332.0	335.1	338.3	338.3	335.1
65°	259.2	265.6	268.7	268.7	271.9	271.9	271.9	275.1
67.5°	196.0	196.0	196.0	199.2	196.0	196.0	196.0	196.0
70°	123.3	123.3	123.3	123.3	120.1	123.3	123.3	126.4
72.5°	66.4	66.4	66.4	66.4	66.4	66.4	66.4	66.4
75°	28.5	28.5	28.5	31.7	28.5	28.5	28.5	28.5
77.5°	12.7	9.5	12.7	12.7	9.5	9.5	9.5	9.5
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



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













(END OF REPORT)