

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: P584625

Luminaire Tested: **HC840D010-HM82555935-81WWWB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584625
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: HC840D010-HM82555935-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4228.6 lumens
Efficiency: N/A
Efficacy: 103.1 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

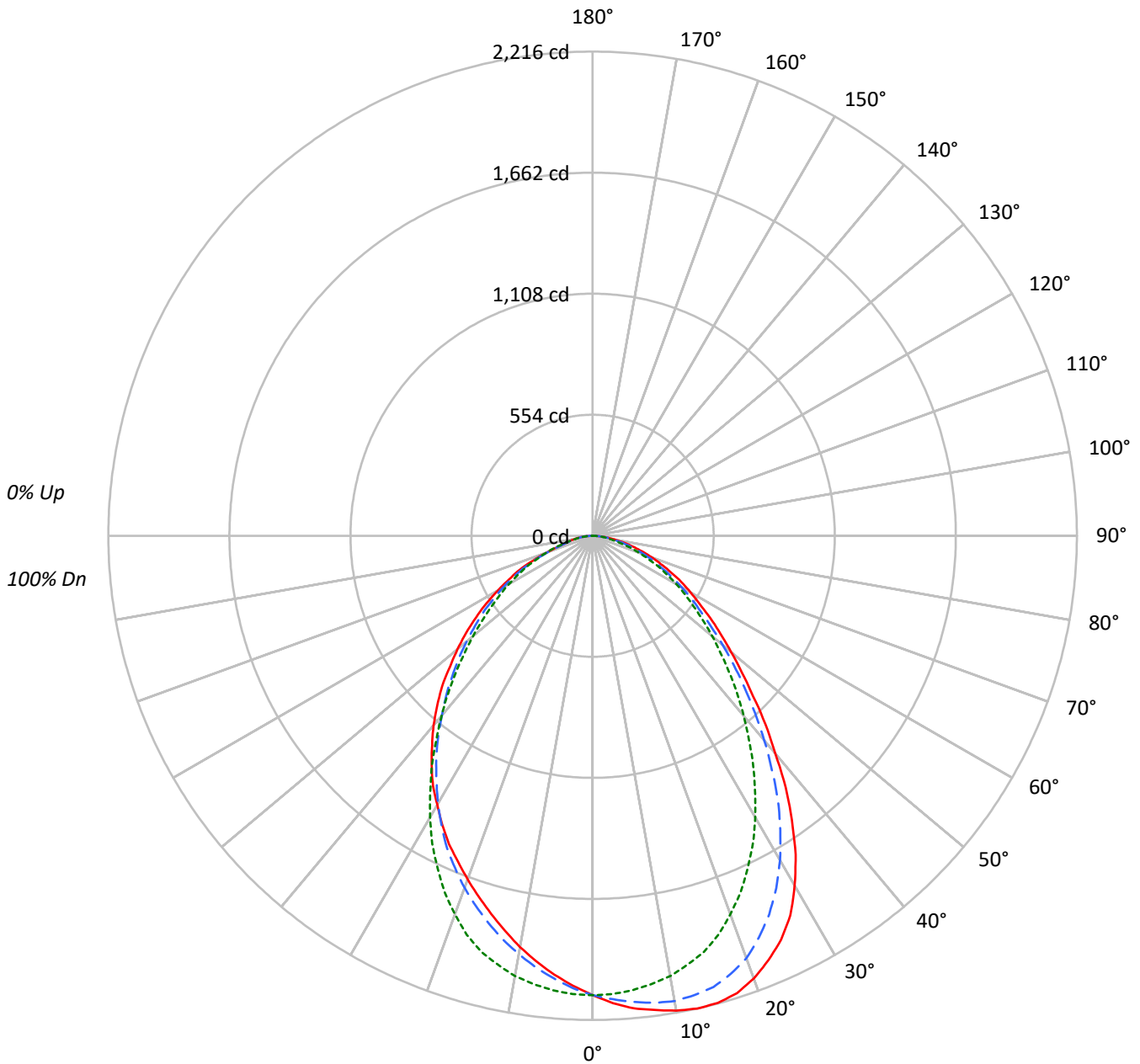
Input Watts (W): 41
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20									
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°	64833	64833	64833
5°	67208	64620	62400
10°	69106	64055	59850
15°	70648	62926	57205
20°	70760	60469	54880
25°	69402	57106	52938
30°	65826	52958	50618
35°	59809	48230	48343
40°	52294	43281	45563
45°	45323	38555	42462
50°	39688	34243	38680
55°	35321	30343	34999
60°	31866	27259	30756
65°	28763	23976	26807
70°	25849	20196	19925
75°	22768	16013	14940
80°	19090	13247	14331
85°	14789	11605	12666



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	198.3	4.7
10°-20°	558.7	13.2
20°-30°	798.4	18.9
30°-40°	848.3	20.1
40°-50°	730.4	17.3
50°-60°	546.1	12.9
60°-70°	348.3	8.2
70°-80°	158.5	3.7
80°-90°	41.6	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°	1555.4	36.8
0°-40°	2403.7	56.8
0°-60°	3680.2	87.0
0°-90°	4228.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4228.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2102	2102	2102	2102	2102	
5°	2171	2141	2088	2034	2016	208
15°	2213	2138	1971	1837	1792	623
25°	2040	1911	1678	1577	1556	934
35°	1589	1478	1281	1248	1284	989
45°	1039	983	884	908	974	808
55°	657	603	564	612	651	591
65°	394	349	329	343	367	393
75°	191	164	134	122	125	203
85°	42	36	33	36	36	50
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°	2102.5	2102.5	2102.5	2102.5	2102.5	2102.5	2102.5	2102.5	2102.5	2102.5	2102.5
2.5°	2141.3	2135.3	2138.3	2135.3	2138.3	2138.3	2132.4	2132.4	2132.4	2132.4	2123.4
5°	2171.2	2168.2	2168.2	2165.2	2162.2	2165.2	2162.2	2159.3	2153.3	2150.3	2141.3
7.5°	2189.1	2189.1	2189.1	2189.1	2186.1	2183.2	2180.2	2174.1	2168.2	2162.2	2156.3
10°	2207.0	2210.1	2207.0	2204.0	2201.0	2195.1	2192.1	2186.1	2177.2	2168.2	2162.2
12.5°	2216.0	2216.0	2213.0	2213.0	2207.0	2204.0	2195.1	2186.1	2177.2	2168.2	2153.3
15°	2213.0	2213.0	2210.1	2207.0	2198.0	2195.1	2189.1	2180.2	2165.2	2153.3	2138.3
17.5°	2195.1	2192.1	2186.1	2186.1	2174.1	2171.2	2165.2	2153.3	2138.3	2120.5	2102.5
20°	2156.3	2156.3	2153.3	2150.3	2138.3	2129.4	2123.4	2108.4	2096.5	2075.6	2057.7
22.5°	2102.5	2108.4	2102.5	2096.5	2081.5	2078.6	2069.6	2051.7	2033.8	2009.9	1989.0
25°	2039.8	2036.8	2033.8	2027.9	2015.9	2009.9	1998.0	1980.0	1962.2	1935.3	1911.4
27.5°	1959.1	1947.2	1947.2	1935.3	1926.3	1917.3	1911.4	1893.4	1869.6	1848.7	1818.8
30°	1848.7	1851.6	1836.6	1833.7	1818.8	1812.8	1800.8	1783.0	1762.0	1738.1	1714.3
32.5°	1729.2	1720.3	1720.3	1708.2	1696.3	1687.4	1684.4	1663.5	1645.5	1621.7	1597.8
35°	1588.8	1588.8	1579.8	1576.9	1565.0	1558.9	1550.0	1538.1	1517.1	1496.2	1478.3
37.5°	1451.4	1445.5	1442.5	1436.6	1427.5	1418.6	1418.6	1397.7	1394.7	1370.8	1347.0
40°	1299.1	1305.1	1299.1	1290.2	1287.2	1281.2	1278.2	1266.3	1257.4	1236.4	1221.5
42.5°	1170.7	1164.8	1164.8	1161.8	1149.8	1149.8	1143.8	1137.9	1122.9	1116.9	1099.1
45°	1039.3	1045.3	1036.4	1039.3	1027.3	1027.3	1027.3	1015.4	1003.5	994.5	982.6
47.5°	925.8	928.8	928.8	919.9	916.9	916.9	910.9	904.9	896.0	884.1	875.0
50°	827.3	830.3	824.3	821.3	815.3	812.3	812.3	800.4	794.4	782.4	776.5
52.5°	737.7	737.7	734.7	734.7	725.8	725.8	719.7	710.8	704.8	698.9	683.9
55°	657.0	657.0	654.0	651.0	651.0	642.1	639.1	630.1	624.2	612.3	603.3
57.5°	579.4	582.4	579.4	576.4	573.5	570.4	564.4	555.5	549.5	540.6	534.5
60°	516.7	516.7	513.7	510.7	504.7	501.7	498.7	492.8	483.9	477.8	468.9
62.5°	457.0	454.0	451.0	448.0	442.0	442.0	436.0	430.1	421.1	415.1	409.1
65°	394.2	394.2	391.3	391.3	388.3	382.2	379.3	376.3	364.4	361.4	349.4
67.5°	337.5	340.5	334.5	334.5	328.6	328.6	325.6	316.5	313.6	307.6	301.7
70°	286.7	286.7	286.7	283.7	277.7	274.8	271.8	265.8	262.9	256.8	250.9
72.5°	236.0	236.0	233.0	233.0	229.9	226.9	224.0	218.0	218.0	212.1	206.1
75°	191.1	191.1	188.1	185.2	182.2	182.2	179.2	176.2	170.3	167.2	164.2
77.5°	146.4	146.4	146.4	143.4	140.4	140.4	140.4	134.4	128.4	128.4	125.4
80°	107.5	107.5	104.5	104.5	101.5	101.5	101.5	98.5	95.6	92.6	89.6
82.5°	71.6	71.6	71.6	71.6	68.7	68.7	68.7	65.7	62.7	62.7	62.7
85°	41.8	41.8	41.8	41.8	38.8	38.8	38.8	38.8	38.8	35.8	35.8
87.5°	18.0	14.9	18.0	14.9	18.0	14.9	18.0	14.9	14.9	14.9	14.9
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°	2102.5	2102.5	2102.5	2102.5	2102.5	2102.5	2102.5	2102.5	2102.5	2102.5	2102.5
2.5°	2126.4	2123.4	2120.5	2117.5	2117.5	2114.4	2108.4	2105.5	2102.5	2099.5	2099.5
5°	2138.3	2135.3	2129.4	2123.4	2120.5	2114.4	2108.4	2102.5	2096.5	2087.6	2084.6
7.5°	2147.4	2138.3	2132.4	2120.5	2117.5	2111.4	2102.5	2093.6	2081.5	2069.6	2060.7
10°	2147.4	2135.3	2126.4	2111.4	2105.5	2099.5	2087.6	2072.6	2057.7	2045.7	2030.9
12.5°	2141.3	2126.4	2111.4	2096.5	2087.6	2078.6	2060.7	2045.7	2027.9	2009.9	1998.0
15°	2120.5	2102.5	2084.6	2066.7	2057.7	2045.7	2027.9	2006.9	1989.0	1971.1	1950.2
17.5°	2081.5	2063.7	2042.8	2021.8	2009.9	2001.0	1974.1	1959.1	1932.3	1914.4	1896.4
20°	2030.9	2009.9	1983.0	1962.2	1947.2	1938.3	1917.3	1890.4	1869.6	1842.7	1824.7
22.5°	1965.2	1938.3	1911.4	1890.4	1875.6	1863.5	1836.6	1809.9	1791.9	1768.0	1747.2
25°	1887.5	1860.6	1833.7	1803.8	1788.9	1777.0	1753.1	1729.2	1705.3	1678.4	1660.5
27.5°	1794.9	1765.0	1741.1	1714.3	1699.3	1681.4	1654.6	1630.7	1606.7	1588.8	1565.0
30°	1693.4	1660.5	1636.6	1609.7	1594.8	1579.8	1552.9	1529.1	1508.2	1487.3	1475.4
32.5°	1570.9	1547.0	1523.1	1496.2	1484.3	1475.4	1448.5	1424.5	1400.6	1382.8	1373.7
35°	1454.4	1427.5	1406.7	1382.8	1367.8	1358.9	1334.9	1314.1	1302.1	1281.2	1269.3
37.5°	1332.0	1311.0	1287.2	1263.3	1254.4	1245.3	1227.5	1206.5	1188.7	1173.7	1167.7
40°	1203.6	1185.6	1164.8	1149.8	1140.9	1131.9	1116.9	1102.1	1090.0	1075.2	1069.2
42.5°	1081.1	1069.2	1051.2	1033.3	1024.4	1021.4	1003.5	991.5	985.6	979.6	973.7
45°	970.6	952.7	940.7	928.8	919.9	913.9	904.9	896.0	890.0	884.1	878.0
47.5°	863.1	848.1	836.2	827.3	818.4	815.3	809.3	800.4	794.4	794.4	794.4
50°	764.6	752.6	740.7	734.7	731.7	725.8	719.7	716.7	713.8	713.8	713.8
52.5°	677.9	666.0	657.0	651.0	651.0	645.1	639.1	636.2	636.2	636.2	636.2
55°	597.3	588.3	582.4	576.4	570.4	567.4	567.4	567.4	564.4	564.4	567.4
57.5°	525.6	519.7	510.7	504.7	501.7	501.7	498.7	495.8	498.7	501.7	504.7
60°	459.9	454.0	451.0	442.0	442.0	442.0	439.0	439.0	439.0	442.0	444.9
62.5°	400.2	397.2	391.3	388.3	385.2	385.2	382.2	382.2	382.2	382.2	385.2
65°	346.4	340.5	334.5	334.5	334.5	331.5	331.5	325.6	328.6	328.6	325.6
67.5°	295.7	289.6	286.7	283.7	280.7	280.7	277.7	274.8	271.8	271.8	271.8
70°	247.9	241.9	241.9	236.0	236.0	233.0	229.9	229.9	226.9	224.0	221.0
72.5°	200.0	197.1	194.1	191.1	191.1	191.1	188.1	185.2	182.2	179.2	173.3
75°	158.3	158.3	152.3	149.3	149.3	146.4	143.4	140.4	137.3	134.4	131.4
77.5°	122.5	119.5	113.5	110.6	110.6	110.6	107.5	104.5	101.5	98.5	95.6
80°	89.6	86.6	83.7	80.7	80.7	80.7	77.7	77.7	74.6	74.6	74.6
82.5°	59.7	59.7	56.8	56.8	56.8	56.8	53.8	53.8	53.8	53.8	53.8
85°	35.8	35.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8	32.8
87.5°	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9
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°	2102.5	2102.5	2102.5	2102.5	2102.5	2102.5	2102.5	2102.5	2102.5	2102.5	2102.5
2.5°	2093.6	2093.6	2087.6	2084.6	2081.5	2084.6	2078.6	2075.6	2072.6	2072.6	2069.6
5°	2075.6	2072.6	2060.7	2057.7	2054.8	2051.7	2045.7	2039.8	2033.8	2030.9	2027.9
7.5°	2051.7	2042.8	2030.9	2027.9	2024.9	2015.9	2006.9	2001.0	1992.1	1989.0	1983.0
10°	2018.8	2006.9	1998.0	1989.0	1983.0	1974.1	1965.2	1956.1	1944.2	1941.2	1932.3
12.5°	1980.0	1965.2	1947.2	1944.2	1935.3	1923.3	1911.4	1902.5	1893.4	1887.5	1878.5
15°	1932.3	1917.3	1899.5	1890.4	1881.5	1872.6	1857.6	1845.7	1836.6	1827.7	1818.8
17.5°	1875.6	1857.6	1842.7	1833.7	1827.7	1812.8	1800.8	1786.0	1777.0	1768.0	1759.1
20°	1806.9	1791.9	1771.0	1762.0	1759.1	1747.2	1732.2	1726.2	1714.3	1705.3	1699.3
22.5°	1729.2	1714.3	1696.3	1690.4	1678.4	1672.4	1657.6	1651.5	1645.5	1636.6	1633.6
25°	1642.6	1627.7	1612.7	1609.7	1600.8	1594.8	1585.8	1576.9	1576.9	1567.9	1567.9
27.5°	1552.9	1538.1	1526.1	1520.1	1517.1	1511.2	1502.3	1499.3	1496.2	1493.2	1493.2
30°	1457.4	1439.5	1433.5	1430.5	1427.5	1421.6	1418.6	1412.6	1415.6	1418.6	1415.6
32.5°	1355.9	1349.9	1337.9	1332.0	1334.9	1332.0	1326.0	1332.0	1329.0	1334.9	1337.9
35°	1257.4	1251.4	1245.3	1245.3	1239.4	1239.4	1239.4	1242.4	1248.3	1251.4	1257.4
37.5°	1161.8	1152.8	1149.8	1146.8	1149.8	1149.8	1149.8	1155.7	1161.8	1167.7	1176.7
40°	1060.2	1054.2	1054.2	1054.2	1054.2	1063.1	1060.2	1066.2	1072.2	1081.1	1090.0
42.5°	964.6	964.6	967.6	967.6	967.6	967.6	973.7	982.6	991.5	1000.4	1009.5
45°	875.0	875.0	875.0	881.1	881.1	884.1	896.0	901.9	907.9	916.9	925.8
47.5°	791.5	791.5	794.4	797.4	800.4	806.3	812.3	821.3	830.3	836.2	845.1
50°	713.8	716.7	722.7	728.8	728.8	731.7	740.7	746.6	752.6	761.6	764.6
52.5°	639.1	645.1	651.0	654.0	657.0	662.9	666.0	675.0	677.9	686.9	689.8
55°	570.4	573.5	582.4	585.4	585.4	591.3	597.3	603.3	612.3	612.3	618.2
57.5°	507.7	510.7	516.7	519.7	516.7	525.6	528.6	534.5	537.5	543.6	546.6
60°	444.9	451.0	454.0	454.0	457.0	459.9	465.9	465.9	471.8	477.8	477.8
62.5°	385.2	388.3	391.3	394.2	397.2	394.2	403.2	403.2	409.1	412.1	418.2
65°	328.6	331.5	331.5	334.5	334.5	337.5	337.5	340.5	343.4	349.4	352.4
67.5°	271.8	271.8	271.8	274.8	271.8	274.8	274.8	277.7	277.7	283.7	286.7
70°	221.0	218.0	215.0	215.0	215.0	215.0	212.1	215.0	215.0	218.0	218.0
72.5°	170.3	167.2	164.2	161.2	161.2	158.3	155.3	158.3	158.3	161.2	161.2
75°	128.4	122.5	122.5	122.5	119.5	119.5	119.5	122.5	122.5	122.5	125.4
77.5°	95.6	95.6	92.6	92.6	92.6	95.6	95.6	98.5	98.5	98.5	98.5
80°	71.6	74.6	74.6	74.6	74.6	77.7	77.7	77.7	77.7	80.7	80.7
82.5°	53.8	53.8	53.8	53.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8
85°	32.8	35.8	35.8	32.8	35.8	35.8	35.8	35.8	35.8	35.8	35.8
87.5°	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9
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: P584625

CATALOG NUMBER: HC840D010-HM82555935-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2102.5	2102.5	2102.5	2102.5	2102.5	2102.5	2102.5	2102.5
2.5°	2066.7	2066.7	2066.7	2066.7	2063.7	2063.7	2063.7	2060.7
5°	2021.8	2021.8	2021.8	2015.9	2018.8	2018.8	2012.9	2015.9
7.5°	1977.1	1974.1	1971.1	1971.1	1968.1	1965.2	1962.2	1965.2
10°	1926.3	1917.3	1917.3	1914.4	1914.4	1908.4	1908.4	1911.4
12.5°	1869.6	1863.5	1863.5	1860.6	1857.6	1854.6	1851.6	1851.6
15°	1812.8	1806.9	1803.8	1800.8	1797.9	1791.9	1794.9	1791.9
17.5°	1756.1	1747.2	1747.2	1744.1	1741.1	1735.1	1735.1	1732.2
20°	1690.4	1687.4	1681.4	1684.4	1681.4	1675.4	1672.4	1672.4
22.5°	1624.7	1624.7	1621.7	1621.7	1618.6	1615.7	1612.7	1612.7
25°	1562.0	1558.9	1562.0	1562.0	1552.9	1552.9	1552.9	1555.9
27.5°	1490.2	1493.2	1490.2	1490.2	1490.2	1490.2	1493.2	1490.2
30°	1418.6	1418.6	1418.6	1421.6	1427.5	1424.5	1424.5	1421.6
32.5°	1340.9	1344.0	1344.0	1347.0	1349.9	1355.9	1355.9	1358.9
35°	1263.3	1269.3	1272.2	1269.3	1278.2	1278.2	1284.2	1284.2
37.5°	1182.6	1185.6	1191.7	1194.6	1200.6	1203.6	1206.5	1206.5
40°	1096.1	1108.0	1111.0	1114.0	1122.9	1122.9	1125.9	1131.9
42.5°	1015.4	1027.3	1030.3	1033.3	1039.3	1048.3	1045.3	1051.2
45°	937.7	946.8	949.7	952.7	961.6	964.6	964.6	973.7
47.5°	854.2	860.1	863.1	869.1	875.0	881.1	887.0	884.1
50°	770.5	779.4	785.4	788.5	797.4	800.4	803.4	806.3
52.5°	695.9	701.9	704.8	707.8	716.7	719.7	722.7	728.8
55°	624.2	627.1	633.2	630.1	639.1	642.1	645.1	651.0
57.5°	552.5	555.5	558.5	558.5	564.4	570.4	573.5	576.4
60°	483.9	489.8	492.8	492.8	492.8	498.7	498.7	498.7
62.5°	421.1	421.1	424.1	424.1	430.1	430.1	430.1	430.1
65°	355.5	358.4	361.4	361.4	367.4	364.4	370.3	367.4
67.5°	286.7	286.7	292.6	292.6	289.6	292.6	292.6	292.6
70°	218.0	218.0	221.0	221.0	221.0	221.0	221.0	221.0
72.5°	161.2	161.2	161.2	164.2	161.2	161.2	164.2	161.2
75°	125.4	125.4	125.4	125.4	125.4	125.4	125.4	125.4
77.5°	98.5	98.5	101.5	101.5	101.5	101.5	101.5	101.5
80°	80.7	80.7	80.7	80.7	83.7	80.7	80.7	80.7
82.5°	59.7	56.8	59.7	56.8	59.7	59.7	59.7	59.7
85°	35.8	35.8	35.8	35.8	35.8	35.8	35.8	35.8
87.5°	14.9	14.9	14.9	14.9	14.9	14.9	14.9	14.9
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)