

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: P584623

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

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584623
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: HC840D010-HM82555935-81WWBB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3721.0 lumens
Efficiency: N/A
Efficacy: 90.8 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

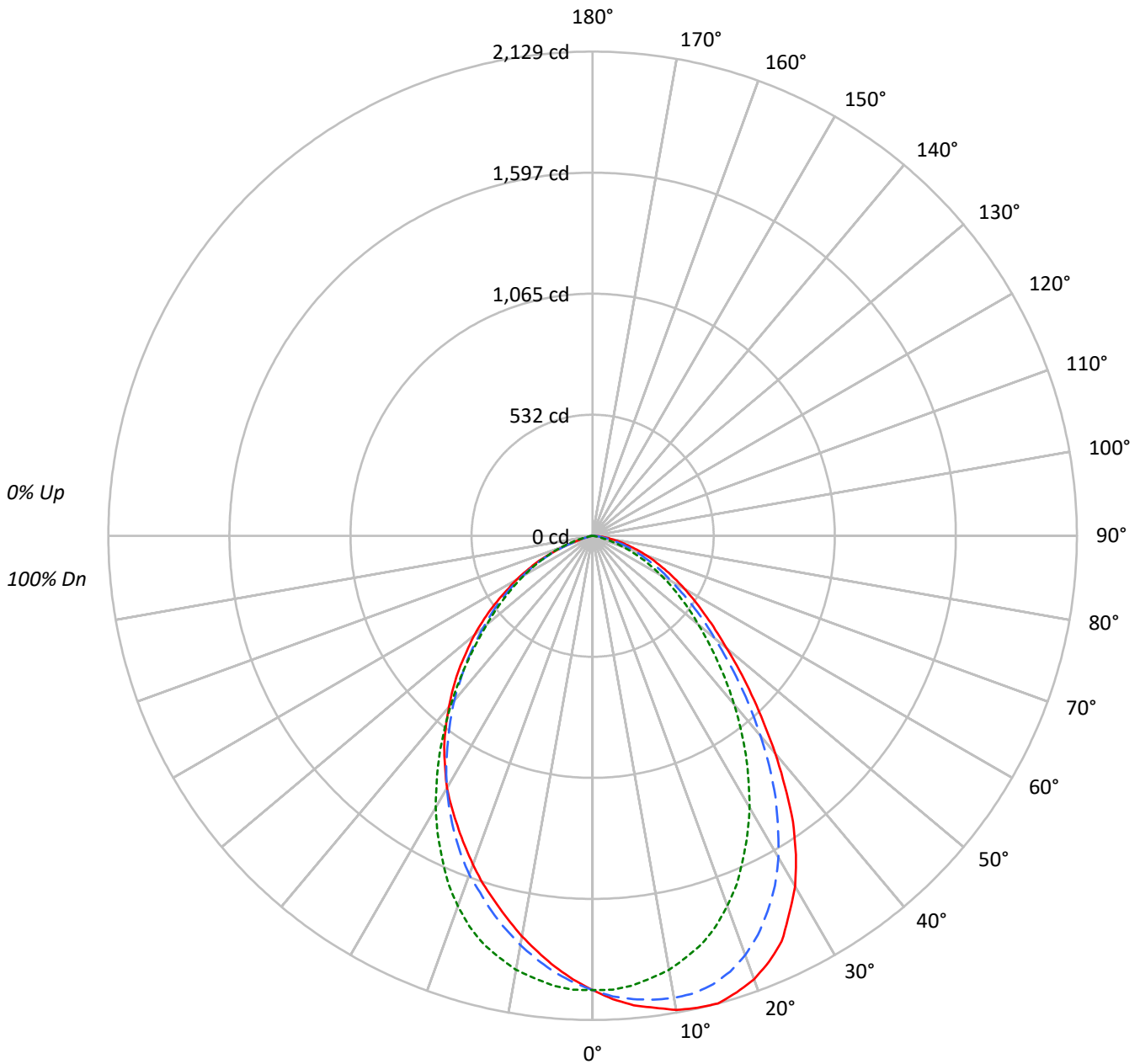
Input Watts (W): 41
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77				77
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67				67
4	88	78	70	64	86	76	69	64	74	68	63	72	66	62	70	65	61	59				59
5	82	70	63	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53				53
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	58	53	49	47				47
7	71	59	51	45	69	58	51	45	57	50	45	55	49	45	54	49	44	43				43
8	66	54	46	41	65	53	46	41	52	46	41	51	45	41	50	44	40	39				39
9	62	50	43	37	61	50	42	37	48	42	37	47	41	37	46	41	37	35				35
10	59	47	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32				32

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	61602	61602	61602
5°	64146	61462	58878
10°	66291	60680	56005
15°	67966	59296	53099
20°	68098	56833	50463
25°	66953	53234	47855
30°	63366	49123	45612
35°	57780	44175	42824
40°	50245	38946	39541
45°	43103	33727	36200
50°	36814	29081	32516
55°	32268	25042	28252
60°	28727	21363	23756
65°	25494	17424	18956
70°	22621	12920	10774
75°	18860	6767	3205
80°	14863	2113	533
85°	10579	1061	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	188.2	5.1
10°-20°	527.6	14.2
20°-30°	746.7	20.1
30°-40°	781.2	21.0
40°-50°	651.6	17.5
50°-60°	462.1	12.4
60°-70°	266.1	7.2
70°-80°	85.6	2.3
80°-90°	11.8	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°	1462.5	39.3
0°-40°	2243.8	60.3
0°-60°	3357.4	90.2
0°-90°	3721.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3721.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1998	1998	1998	1998	1998	
5°	2072	2045	1986	1926	1902	199
15°	2129	2042	1857	1711	1663	599
25°	1968	1821	1565	1439	1406	898
35°	1535	1400	1174	1111	1138	952
45°	988	908	773	782	830	766
55°	600	538	466	490	526	542
65°	349	293	239	239	260	349
75°	158	116	57	27	27	172
85°	30	15	3	0	0	37
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°	1997.7	1997.7	1997.7	1997.7	1997.7	1997.7	1997.7	1997.7	1997.7	1997.7	1997.7
2.5°	2039.4	2036.4	2033.5	2036.4	2033.5	2036.4	2033.5	2033.5	2030.5	2027.5	2027.5
5°	2072.3	2069.3	2069.3	2069.3	2066.3	2063.3	2063.3	2060.4	2054.4	2051.4	2045.4
7.5°	2093.2	2096.2	2096.2	2096.2	2090.2	2090.2	2084.3	2078.2	2072.3	2066.3	2057.4
10°	2117.1	2117.1	2114.0	2111.1	2105.1	2102.1	2099.2	2093.2	2084.3	2072.3	2063.3
12.5°	2126.1	2126.1	2123.1	2117.1	2114.0	2111.1	2108.1	2099.2	2087.3	2072.3	2060.4
15°	2129.0	2123.1	2120.1	2117.1	2111.1	2102.1	2102.1	2090.2	2075.2	2057.4	2042.4
17.5°	2105.1	2108.1	2102.1	2096.2	2087.3	2081.2	2072.3	2063.3	2045.4	2024.5	2009.6
20°	2075.2	2072.3	2069.3	2060.4	2048.3	2045.4	2036.4	2021.6	2006.6	1982.7	1961.8
22.5°	2027.5	2024.5	2018.6	2012.5	2000.6	1994.7	1985.6	1967.8	1946.8	1923.0	1899.1
25°	1967.8	1961.8	1952.8	1940.9	1932.0	1926.0	1914.0	1896.1	1872.2	1845.3	1821.4
27.5°	1872.2	1881.2	1875.2	1857.4	1848.3	1836.4	1833.4	1809.5	1788.6	1761.8	1734.9
30°	1779.6	1779.6	1770.7	1761.8	1746.8	1737.9	1725.9	1708.0	1687.1	1654.2	1633.4
32.5°	1663.3	1660.2	1648.3	1645.3	1633.4	1615.4	1612.4	1588.5	1567.7	1543.8	1516.9
35°	1534.9	1528.8	1516.9	1508.0	1502.0	1493.0	1484.0	1463.1	1442.3	1418.4	1400.4
37.5°	1388.5	1388.5	1385.5	1370.5	1364.6	1358.6	1349.7	1328.8	1316.9	1292.9	1275.0
40°	1248.2	1245.2	1236.2	1233.2	1227.2	1218.3	1212.4	1200.4	1182.5	1164.5	1146.7
42.5°	1110.7	1113.7	1101.8	1104.8	1092.9	1086.9	1084.0	1066.0	1057.1	1039.1	1024.2
45°	988.4	985.4	979.4	976.4	970.4	964.5	958.5	949.5	934.6	916.7	907.7
47.5°	874.9	866.0	866.0	863.0	860.0	848.0	845.0	836.1	827.2	809.2	797.3
50°	767.4	767.4	767.4	764.5	755.4	752.4	746.5	737.6	728.6	716.6	698.8
52.5°	680.8	680.8	680.8	677.8	665.9	662.9	659.9	648.0	636.1	627.0	615.1
55°	600.2	603.2	600.2	594.2	585.2	585.2	576.3	570.4	558.3	549.4	537.5
57.5°	531.5	531.5	525.5	522.5	516.6	513.6	507.7	501.7	486.7	477.8	462.8
60°	465.8	462.8	462.8	456.8	450.9	444.9	442.0	432.9	427.0	412.1	400.1
62.5°	406.1	406.1	400.1	400.1	388.2	388.2	385.2	376.3	367.2	352.4	346.4
65°	349.4	349.4	346.4	343.4	334.4	331.4	328.4	319.5	310.6	301.5	292.6
67.5°	298.6	298.6	292.6	289.6	283.7	280.7	274.8	268.7	259.8	250.9	241.8
70°	250.9	247.9	244.9	241.8	235.9	232.9	226.9	221.0	212.1	206.0	197.1
72.5°	203.0	203.0	200.0	194.1	191.1	188.1	185.2	179.2	170.2	161.2	155.3
75°	158.3	158.3	158.3	152.3	146.4	143.3	143.3	137.3	131.4	122.5	116.5
77.5°	122.5	119.5	116.5	116.5	110.4	107.5	104.5	101.5	92.6	89.6	83.7
80°	83.7	86.6	83.7	80.6	77.6	74.6	74.6	68.7	65.7	59.7	53.8
82.5°	56.8	53.8	53.8	50.8	50.8	47.7	47.7	41.8	38.8	35.8	32.8
85°	29.9	29.9	26.9	26.9	26.9	23.9	23.9	20.9	20.9	18.0	14.9
87.5°	8.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9	5.9	5.9	5.9
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°	1997.7	1997.7	1997.7	1997.7	1997.7	1997.7	1997.7	1997.7	1997.7	1997.7	1997.7
2.5°	2024.5	2018.6	2015.5	2015.5	2012.5	2009.6	2006.6	2003.6	1997.7	1997.7	1991.7
5°	2039.4	2033.5	2030.5	2021.6	2015.5	2015.5	2003.6	2000.6	1991.7	1985.6	1979.7
7.5°	2051.4	2039.4	2030.5	2021.6	2015.5	2009.6	1997.7	1985.6	1973.7	1961.8	1955.9
10°	2051.4	2039.4	2024.5	2009.6	2003.6	1997.7	1982.7	1964.8	1949.8	1937.9	1923.0
12.5°	2045.4	2027.5	2009.6	1997.7	1985.6	1976.7	1958.9	1940.9	1923.0	1899.1	1887.1
15°	2027.5	2003.6	1985.6	1964.8	1955.9	1940.9	1926.0	1899.1	1878.2	1857.4	1842.4
17.5°	1991.7	1961.8	1940.9	1919.9	1905.1	1896.1	1872.2	1848.3	1824.4	1800.6	1782.6
20°	1937.9	1911.0	1887.1	1860.3	1848.3	1836.4	1806.5	1782.6	1758.7	1731.9	1714.0
22.5°	1872.2	1845.3	1812.5	1791.5	1773.7	1758.7	1731.9	1705.0	1681.1	1657.2	1633.4
25°	1791.5	1764.8	1734.9	1702.1	1690.0	1675.2	1645.3	1618.4	1591.5	1564.6	1543.8
27.5°	1705.0	1669.2	1645.3	1609.5	1597.5	1582.6	1549.7	1519.9	1495.9	1475.1	1451.2
30°	1600.6	1573.7	1540.8	1508.0	1495.9	1481.1	1454.2	1427.3	1403.4	1379.6	1355.6
32.5°	1487.0	1460.1	1427.3	1403.4	1385.5	1373.6	1346.7	1322.8	1298.9	1275.0	1254.1
35°	1367.5	1337.7	1313.9	1290.0	1275.0	1260.1	1233.2	1212.4	1194.4	1173.5	1152.6
37.5°	1245.2	1224.3	1200.4	1173.5	1158.6	1146.7	1125.7	1101.8	1086.9	1069.0	1054.1
40°	1125.7	1101.8	1080.9	1057.1	1045.1	1036.1	1015.2	997.3	982.3	967.5	958.5
42.5°	1003.3	982.3	961.5	946.5	937.6	928.7	913.7	892.9	883.8	868.9	860.0
45°	889.9	871.9	857.0	836.1	830.1	824.2	806.2	791.3	782.3	773.4	767.4
47.5°	782.3	770.4	752.4	740.5	731.6	725.5	713.6	701.7	692.7	686.7	680.8
50°	689.7	674.8	662.9	650.9	645.0	636.1	624.0	618.1	612.1	606.2	606.2
52.5°	603.2	588.2	576.3	567.4	561.3	555.4	546.4	543.5	537.5	537.5	534.5
55°	522.5	513.6	501.7	489.7	486.7	483.7	477.8	471.8	468.9	465.8	468.9
57.5°	453.9	444.9	432.9	424.0	421.0	418.0	415.1	409.1	406.1	406.1	406.1
60°	391.2	382.2	373.3	364.3	364.3	358.3	355.3	352.4	349.4	346.4	346.4
62.5°	334.4	325.5	316.5	310.6	307.6	304.5	298.6	295.6	292.6	292.6	289.6
65°	283.7	271.7	268.7	259.8	256.8	253.8	250.9	244.9	241.8	238.8	235.9
67.5°	232.9	226.9	218.0	212.1	209.0	206.0	203.0	197.1	194.1	191.1	185.2
70°	188.1	182.2	176.1	170.2	167.2	164.2	158.3	152.3	149.3	143.3	134.4
72.5°	146.4	140.3	134.4	128.4	125.4	122.5	116.5	110.4	104.5	98.5	92.6
75°	110.4	104.5	95.6	89.6	86.6	86.6	77.6	71.6	65.7	56.8	50.8
77.5°	77.6	68.7	65.7	59.7	56.8	50.8	44.7	38.8	32.8	29.9	23.9
80°	50.8	44.7	38.8	35.8	32.8	29.9	26.9	20.9	14.9	11.9	8.9
82.5°	29.9	26.9	23.9	20.9	18.0	14.9	11.9	11.9	8.9	5.9	3.0
85°	14.9	11.9	8.9	8.9	5.9	5.9	5.9	3.0	3.0	3.0	3.0
87.5°	5.9	3.0	3.0	3.0	3.0	3.0	3.0	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°	1997.7	1997.7	1997.7	1997.7	1997.7	1997.7	1997.7	1997.7	1997.7	1997.7	1997.7
2.5°	1988.7	1985.6	1982.7	1979.7	1979.7	1973.7	1973.7	1970.8	1964.8	1961.8	1961.8
5°	1970.8	1961.8	1955.9	1952.8	1949.8	1940.9	1937.9	1932.0	1926.0	1919.9	1917.0
7.5°	1943.9	1929.0	1923.0	1919.9	1911.0	1902.1	1896.1	1887.1	1878.2	1869.3	1866.3
10°	1911.0	1896.1	1881.2	1875.2	1866.3	1860.3	1848.3	1836.4	1827.5	1818.4	1809.5
12.5°	1869.3	1851.3	1836.4	1830.5	1821.4	1809.5	1791.5	1785.6	1770.7	1764.8	1752.8
15°	1821.4	1800.6	1785.6	1776.7	1767.7	1749.8	1737.9	1725.9	1711.0	1705.0	1693.0
17.5°	1761.8	1737.9	1722.9	1714.0	1708.0	1693.0	1675.2	1660.2	1645.3	1639.3	1630.3
20°	1690.0	1675.2	1654.2	1645.3	1639.3	1621.4	1603.5	1597.5	1585.6	1573.7	1564.6
22.5°	1609.5	1594.5	1573.7	1564.6	1561.6	1546.8	1531.8	1522.8	1513.9	1505.0	1495.9
25°	1525.8	1508.0	1490.0	1484.0	1478.1	1466.1	1454.2	1448.2	1439.3	1433.2	1427.3
27.5°	1436.2	1418.4	1403.4	1394.4	1388.5	1379.6	1373.6	1367.5	1361.6	1355.6	1352.7
30°	1340.8	1322.8	1310.9	1304.8	1298.9	1295.9	1287.0	1284.0	1281.0	1275.0	1278.1
32.5°	1245.2	1230.2	1218.3	1209.3	1209.3	1203.3	1200.4	1200.4	1197.4	1197.4	1197.4
35°	1140.6	1131.7	1122.8	1119.8	1116.8	1113.7	1110.7	1113.7	1110.7	1113.7	1116.8
37.5°	1045.1	1036.1	1030.2	1027.2	1024.2	1027.2	1024.2	1024.2	1027.2	1033.2	1036.1
40°	946.5	940.6	934.6	937.6	934.6	934.6	934.6	943.6	946.5	949.5	952.5
42.5°	853.9	848.0	845.0	845.0	848.0	845.0	851.0	853.9	860.0	868.9	874.9
45°	764.5	761.5	761.5	764.5	761.5	767.4	767.4	773.4	782.3	788.3	794.3
47.5°	680.8	680.8	680.8	683.8	683.8	686.7	692.7	695.8	701.7	707.7	713.6
50°	603.2	606.2	609.2	609.2	609.2	615.1	621.1	624.0	627.0	630.1	639.0
52.5°	534.5	537.5	537.5	540.5	543.5	546.4	549.4	555.4	558.3	564.3	567.4
55°	468.9	468.9	474.8	477.8	477.8	477.8	483.7	483.7	489.7	492.7	498.6
57.5°	406.1	409.1	409.1	412.1	412.1	415.1	418.0	421.0	424.0	427.0	429.9
60°	346.4	346.4	346.4	349.4	352.4	355.3	352.4	358.3	358.3	364.3	367.2
62.5°	289.6	292.6	292.6	292.6	292.6	292.6	292.6	295.6	298.6	301.5	304.5
65°	235.9	235.9	235.9	232.9	235.9	232.9	235.9	238.8	238.8	241.8	244.9
67.5°	182.2	182.2	176.1	176.1	179.2	179.2	179.2	179.2	176.1	182.2	182.2
70°	131.4	128.4	125.4	122.5	122.5	119.5	119.5	116.5	116.5	116.5	116.5
72.5°	86.6	80.6	74.6	71.6	68.7	68.7	62.7	59.7	62.7	62.7	62.7
75°	44.7	38.8	35.8	32.8	29.9	29.9	26.9	26.9	26.9	26.9	26.9
77.5°	18.0	14.9	11.9	11.9	8.9	8.9	8.9	8.9	8.9	8.9	8.9
80°	5.9	5.9	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
82.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
85°	3.0	0.0	0.0	3.0	0.0	3.0	3.0	3.0	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: P584623

CATALOG NUMBER: HC840D010-HM82555935-81WWBB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1997.7	1997.7	1997.7	1997.7	1997.7	1997.7	1997.7	1997.7
2.5°	1958.9	1958.9	1955.9	1958.9	1952.8	1955.9	1952.8	1952.8
5°	1914.0	1908.0	1908.0	1908.0	1905.1	1905.1	1902.1	1902.1
7.5°	1860.3	1857.4	1854.3	1851.3	1848.3	1845.3	1845.3	1845.3
10°	1806.5	1800.6	1800.6	1797.6	1791.5	1788.6	1788.6	1788.6
12.5°	1743.8	1740.9	1737.9	1737.9	1725.9	1729.0	1725.9	1725.9
15°	1684.1	1681.1	1681.1	1672.2	1666.2	1666.2	1666.2	1663.3
17.5°	1621.4	1618.4	1615.4	1609.5	1603.5	1603.5	1600.6	1603.5
20°	1555.7	1552.7	1546.8	1546.8	1543.8	1540.8	1534.9	1537.8
22.5°	1490.0	1484.0	1481.1	1481.1	1478.1	1478.1	1472.1	1472.1
25°	1421.3	1418.4	1415.4	1418.4	1412.4	1412.4	1406.5	1406.5
27.5°	1349.7	1346.7	1346.7	1346.7	1343.7	1346.7	1343.7	1343.7
30°	1278.1	1278.1	1275.0	1275.0	1278.1	1275.0	1278.1	1281.0
32.5°	1200.4	1200.4	1203.3	1203.3	1206.3	1206.3	1206.3	1206.3
35°	1119.8	1125.7	1125.7	1128.7	1131.7	1134.7	1134.7	1137.6
37.5°	1045.1	1048.0	1051.1	1054.1	1060.1	1060.1	1060.1	1060.1
40°	964.5	967.5	973.4	970.4	982.3	985.4	982.3	982.3
42.5°	880.8	886.8	889.9	895.8	898.8	904.8	907.7	907.7
45°	803.2	806.2	812.2	818.1	821.1	830.1	830.1	830.1
47.5°	722.6	728.6	731.6	737.6	740.5	749.5	752.4	749.5
50°	645.0	650.9	656.9	656.9	665.9	668.9	674.8	677.8
52.5°	570.4	573.3	579.3	582.3	588.2	594.2	597.1	600.2
55°	498.6	501.7	507.7	507.7	516.6	519.6	525.5	525.5
57.5°	432.9	435.9	442.0	439.0	444.9	450.9	450.9	447.9
60°	370.2	370.2	370.2	376.3	379.3	382.2	385.2	385.2
62.5°	304.5	310.6	313.6	313.6	316.5	319.5	319.5	316.5
65°	244.9	250.9	253.8	253.8	256.8	256.8	256.8	259.8
67.5°	185.2	185.2	185.2	188.1	185.2	185.2	185.2	185.2
70°	116.5	116.5	116.5	116.5	113.5	116.5	116.5	119.5
72.5°	62.7	62.7	62.7	62.7	62.7	62.7	62.7	62.7
75°	26.9	26.9	26.9	29.9	26.9	26.9	26.9	26.9
77.5°	11.9	8.9	11.9	11.9	8.9	8.9	8.9	8.9
80°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
82.5°	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
85°	0.0	3.0	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



Report Generated By 670245859 / DESKTOP-HRDQ47P





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













(END OF REPORT)