

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: P584727

Luminaire Tested: **HC845D010-HM82555927-81WWWB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584727
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: HC845D010-HM82555927-81WWWB
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: 3759.9 lumens
Efficiency: N/A
Efficacy: 85.5 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

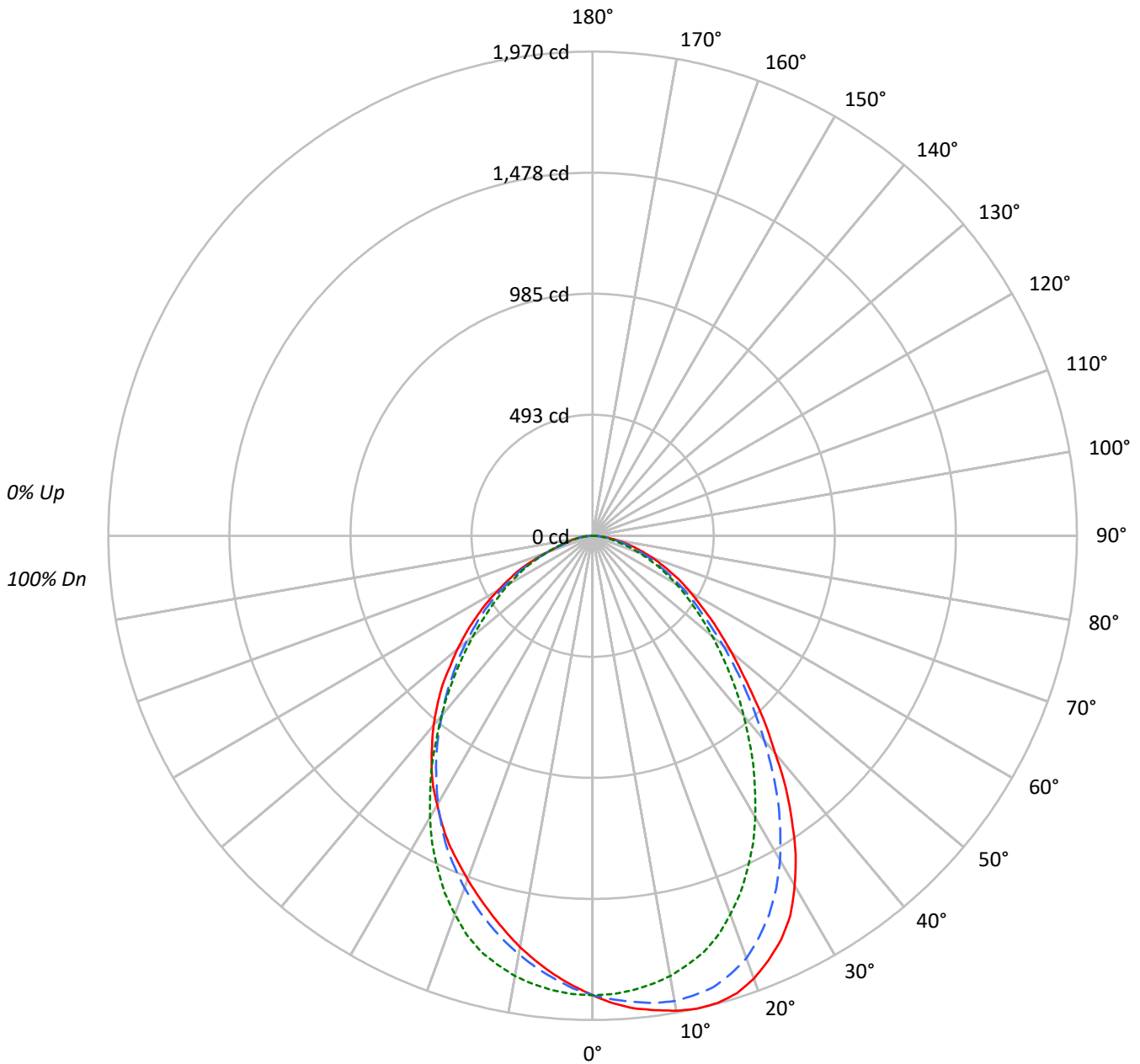
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	57645	57645	57645
5°	59757	57457	55485
10°	61447	56957	53212
15°	62817	55950	50865
20°	62917	53765	48796
25°	61710	50778	47069
30°	58527	47086	45007
35°	53184	42884	42982
40°	46501	38483	40512
45°	40299	34277	37752
50°	35289	30448	34392
55°	31407	26983	31123
60°	28326	24237	27352
65°	25574	21313	23830
70°	22982	17960	17716
75°	20254	14238	13296
80°	16977	11791	12732
85°	13162	10331	11286



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	176.4	4.7
10°-20°	496.7	13.2
20°-30°	709.9	18.9
30°-40°	754.3	20.1
40°-50°	649.4	17.3
50°-60°	485.5	12.9
60°-70°	309.7	8.2
70°-80°	140.9	3.7
80°-90°	37.0	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°	1383.0	36.8
0°-40°	2137.3	56.8
0°-60°	3272.3	87.0
0°-90°	3759.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3759.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1869	1869	1869	1869	1869	
5°	1930	1904	1856	1808	1792	185
15°	1968	1901	1753	1633	1593	554
25°	1814	1699	1492	1402	1383	830
35°	1413	1314	1139	1110	1142	880
45°	924	874	786	807	866	718
55°	584	536	502	544	579	525
65°	350	311	292	305	327	350
75°	170	146	120	109	112	181
85°	37	32	29	32	32	45
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°	1869.4	1869.4	1869.4	1869.4	1869.4	1869.4	1869.4	1869.4	1869.4	1869.4	1869.4
2.5°	1904.0	1898.6	1901.3	1898.6	1901.3	1901.3	1896.0	1896.0	1896.0	1896.0	1888.1
5°	1930.5	1927.8	1927.8	1925.2	1922.5	1925.2	1922.5	1919.8	1914.6	1911.9	1904.0
7.5°	1946.5	1946.5	1946.5	1946.5	1943.8	1941.1	1938.5	1933.2	1927.8	1922.5	1917.3
10°	1962.4	1965.0	1962.4	1959.7	1957.0	1951.8	1949.1	1943.8	1935.8	1927.8	1922.5
12.5°	1970.4	1970.4	1967.7	1967.7	1962.4	1959.7	1951.8	1943.8	1935.8	1927.8	1914.6
15°	1967.7	1967.7	1965.0	1962.4	1954.5	1951.8	1946.5	1938.5	1925.2	1914.6	1901.3
17.5°	1951.8	1949.1	1943.8	1943.8	1933.2	1930.5	1925.2	1914.6	1901.3	1885.4	1869.4
20°	1917.3	1917.3	1914.6	1911.9	1901.3	1893.3	1888.1	1874.8	1864.1	1845.6	1829.6
22.5°	1869.4	1874.8	1869.4	1864.1	1850.9	1848.2	1840.2	1824.2	1808.4	1787.1	1768.5
25°	1813.7	1811.0	1808.4	1803.0	1792.5	1787.1	1776.5	1760.6	1744.6	1720.8	1699.4
27.5°	1742.0	1731.3	1731.3	1720.8	1712.8	1704.8	1699.4	1683.6	1662.3	1643.7	1617.2
30°	1643.7	1646.4	1633.1	1630.5	1617.2	1611.8	1601.3	1585.3	1566.8	1545.4	1524.2
32.5°	1537.5	1529.6	1529.6	1518.9	1508.2	1500.4	1497.7	1479.0	1463.2	1442.0	1420.6
35°	1412.8	1412.8	1404.8	1402.1	1391.4	1386.1	1378.2	1367.6	1349.0	1330.4	1314.5
37.5°	1290.5	1285.3	1282.6	1277.3	1269.3	1261.3	1261.3	1242.8	1240.1	1218.9	1197.6
40°	1155.2	1160.4	1155.2	1147.2	1144.5	1139.2	1136.5	1126.0	1118.0	1099.3	1086.1
42.5°	1040.9	1035.6	1035.6	1032.9	1022.4	1022.4	1017.0	1011.7	998.5	993.2	977.2
45°	924.1	929.4	921.4	924.1	913.5	913.5	913.5	902.9	892.2	884.3	873.7
47.5°	823.2	825.8	825.8	817.9	815.2	815.2	810.0	804.6	796.6	786.0	778.1
50°	735.6	738.2	732.9	730.2	724.9	722.3	722.3	711.7	706.4	695.7	690.4
52.5°	655.9	655.9	653.2	653.2	645.3	645.3	640.0	632.0	626.7	621.3	608.1
55°	584.2	584.2	581.6	578.9	578.9	570.9	568.3	560.3	554.9	544.4	536.4
57.5°	515.2	517.8	515.2	512.5	509.9	507.2	501.9	494.0	488.6	480.7	475.3
60°	459.3	459.3	456.8	454.1	448.8	446.1	443.5	438.1	430.1	424.9	416.9
62.5°	406.3	403.6	400.9	398.4	393.0	393.0	387.7	382.4	374.4	369.1	363.7
65°	350.5	350.5	347.9	347.9	345.2	339.9	337.2	334.5	324.0	321.3	310.7
67.5°	300.1	302.8	297.4	297.4	292.1	292.1	289.5	281.5	278.8	273.5	268.1
70°	254.9	254.9	254.9	252.3	246.9	244.3	241.6	236.4	233.7	228.4	223.1
72.5°	209.7	209.7	207.2	207.2	204.5	201.9	199.2	193.9	193.9	188.5	183.2
75°	170.0	170.0	167.3	164.7	162.0	162.0	159.3	156.7	151.3	148.7	146.0
77.5°	130.1	130.1	130.1	127.5	124.8	124.8	124.8	119.5	114.1	114.1	111.6
80°	95.6	95.6	92.9	92.9	90.3	90.3	90.3	87.6	84.9	82.3	79.6
82.5°	63.7	63.7	63.7	63.7	61.1	61.1	61.1	58.4	55.7	55.7	55.7
85°	37.2	37.2	37.2	37.2	34.5	34.5	34.5	34.5	34.5	31.9	31.9
87.5°	16.0	13.3	16.0	13.3	16.0	13.3	16.0	13.3	13.3	13.3	13.3
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°	1869.4	1869.4	1869.4	1869.4	1869.4	1869.4	1869.4	1869.4	1869.4	1869.4	1869.4
2.5°	1890.6	1888.1	1885.4	1882.7	1882.7	1880.1	1874.8	1872.1	1869.4	1866.8	1866.8
5°	1901.3	1898.6	1893.3	1888.1	1885.4	1880.1	1874.8	1869.4	1864.1	1856.2	1853.5
7.5°	1909.3	1901.3	1896.0	1885.4	1882.7	1877.4	1869.4	1861.4	1850.9	1840.2	1832.2
10°	1909.3	1898.6	1890.6	1877.4	1872.1	1866.8	1856.2	1842.9	1829.6	1819.0	1805.7
12.5°	1904.0	1890.6	1877.4	1864.1	1856.2	1848.2	1832.2	1819.0	1803.0	1787.1	1776.5
15°	1885.4	1869.4	1853.5	1837.6	1829.6	1819.0	1803.0	1784.5	1768.5	1752.6	1734.0
17.5°	1850.9	1834.9	1816.4	1797.7	1787.1	1779.2	1755.3	1742.0	1718.1	1702.1	1686.2
20°	1805.7	1787.1	1763.3	1744.6	1731.3	1723.4	1704.8	1680.9	1662.3	1638.4	1622.5
22.5°	1747.3	1723.4	1699.4	1680.9	1667.7	1657.0	1633.1	1609.2	1593.3	1572.1	1553.4
25°	1678.2	1654.4	1630.5	1603.8	1590.6	1580.0	1558.8	1537.5	1516.2	1492.4	1476.5
27.5°	1596.0	1569.4	1548.1	1524.2	1510.9	1495.0	1471.2	1449.8	1428.6	1412.8	1391.4
30°	1505.7	1476.5	1455.2	1431.3	1418.0	1404.8	1380.9	1359.6	1341.0	1322.4	1311.8
32.5°	1396.8	1375.6	1354.2	1330.4	1319.7	1311.8	1288.0	1266.6	1245.4	1229.4	1221.6
35°	1293.2	1269.3	1250.8	1229.4	1216.2	1208.2	1187.0	1168.4	1157.8	1139.2	1128.5
37.5°	1184.4	1165.7	1144.5	1123.3	1115.3	1107.3	1091.4	1072.8	1056.9	1043.6	1038.3
40°	1070.1	1054.2	1035.6	1022.4	1014.4	1006.4	993.2	979.8	969.2	956.0	950.6
42.5°	961.3	950.6	934.8	918.8	910.8	908.1	892.2	881.6	876.3	871.0	865.7
45°	863.0	847.1	836.5	825.8	817.9	812.5	804.6	796.6	791.3	786.0	780.7
47.5°	767.4	754.1	743.6	735.6	727.6	724.9	719.6	711.7	706.4	706.4	706.4
50°	679.8	669.2	658.5	653.2	650.5	645.3	640.0	637.3	634.7	634.7	634.7
52.5°	602.8	592.1	584.2	578.9	578.9	573.6	568.3	565.6	565.6	565.6	565.6
55°	531.1	523.2	517.8	512.5	507.2	504.5	504.5	504.5	501.9	501.9	504.5
57.5°	467.3	462.0	454.1	448.8	446.1	446.1	443.5	440.8	443.5	446.1	448.8
60°	408.9	403.6	400.9	393.0	393.0	393.0	390.4	390.4	390.4	393.0	395.7
62.5°	355.9	353.2	347.9	345.2	342.5	342.5	339.9	339.9	339.9	339.9	342.5
65°	308.0	302.8	297.4	297.4	297.4	294.8	294.8	289.5	292.1	292.1	289.5
67.5°	262.9	257.6	254.9	252.3	249.6	249.6	246.9	244.3	241.6	241.6	241.6
70°	220.4	215.1	215.1	209.7	209.7	207.2	204.5	204.5	201.9	199.2	196.5
72.5°	177.9	175.2	172.5	170.0	170.0	170.0	167.3	164.7	162.0	159.3	154.0
75°	140.8	140.8	135.5	132.8	132.8	130.1	127.5	124.8	122.1	119.5	116.8
77.5°	108.9	106.3	100.9	98.3	98.3	98.3	95.6	92.9	90.3	87.6	84.9
80°	79.6	77.1	74.4	71.7	71.7	71.7	69.1	69.1	66.4	66.4	66.4
82.5°	53.1	53.1	50.4	50.4	50.4	50.4	47.7	47.7	47.7	47.7	47.7
85°	31.9	31.9	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2
87.5°	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3
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):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1869.4	1869.4	1869.4	1869.4	1869.4	1869.4	1869.4	1869.4	1869.4	1869.4	1869.4
2.5°	1861.4	1861.4	1856.2	1853.5	1850.9	1853.5	1848.2	1845.6	1842.9	1842.9	1840.2
5°	1845.6	1842.9	1832.2	1829.6	1826.9	1824.2	1819.0	1813.7	1808.4	1805.7	1803.0
7.5°	1824.2	1816.4	1805.7	1803.0	1800.4	1792.5	1784.5	1779.2	1771.2	1768.5	1763.3
10°	1795.0	1784.5	1776.5	1768.5	1763.3	1755.3	1747.3	1739.3	1728.7	1726.1	1718.1
12.5°	1760.6	1747.3	1731.3	1728.7	1720.8	1710.1	1699.4	1691.6	1683.6	1678.2	1670.2
15°	1718.1	1704.8	1688.9	1680.9	1672.9	1665.0	1651.7	1641.0	1633.1	1625.2	1617.2
17.5°	1667.7	1651.7	1638.4	1630.5	1625.2	1611.8	1601.3	1588.0	1580.0	1572.1	1564.1
20°	1606.5	1593.3	1574.6	1566.8	1564.1	1553.4	1540.1	1534.9	1524.2	1516.2	1510.9
22.5°	1537.5	1524.2	1508.2	1503.0	1492.4	1487.0	1473.8	1468.5	1463.2	1455.2	1452.5
25°	1460.5	1447.2	1434.0	1431.3	1423.3	1418.0	1410.1	1402.1	1402.1	1394.1	1394.1
27.5°	1380.9	1367.6	1356.9	1351.6	1349.0	1343.7	1335.7	1333.0	1330.4	1327.7	1327.7
30°	1295.8	1280.0	1274.6	1272.0	1269.3	1264.0	1261.3	1256.0	1258.6	1261.3	1258.6
32.5°	1205.6	1200.2	1189.7	1184.4	1187.0	1184.4	1179.0	1184.4	1181.7	1187.0	1189.7
35°	1118.0	1112.6	1107.3	1107.3	1102.0	1102.0	1102.0	1104.6	1110.0	1112.6	1118.0
37.5°	1032.9	1025.0	1022.4	1019.7	1022.4	1022.4	1022.4	1027.7	1032.9	1038.3	1046.2
40°	942.7	937.3	937.3	937.3	937.3	945.3	942.7	948.0	953.3	961.3	969.2
42.5°	857.7	857.7	860.4	860.4	860.4	860.4	865.7	873.7	881.6	889.6	897.6
45°	778.1	778.1	778.1	783.3	783.3	786.0	796.6	802.0	807.3	815.2	823.2
47.5°	703.7	703.7	706.4	709.0	711.7	716.9	722.3	730.2	738.2	743.6	751.5
50°	634.7	637.3	642.6	648.0	648.0	650.5	658.5	663.9	669.2	677.2	679.8
52.5°	568.3	573.6	578.9	581.6	584.2	589.5	592.1	600.1	602.8	610.8	613.4
55°	507.2	509.9	517.8	520.5	520.5	525.7	531.1	536.4	544.4	544.4	549.7
57.5°	451.4	454.1	459.3	462.0	459.3	467.3	470.0	475.3	478.0	483.3	486.0
60°	395.7	400.9	403.6	403.6	406.3	408.9	414.3	414.3	419.6	424.9	424.9
62.5°	342.5	345.2	347.9	350.5	353.2	350.5	358.5	358.5	363.7	366.4	371.7
65°	292.1	294.8	294.8	297.4	297.4	300.1	300.1	302.8	305.3	310.7	313.3
67.5°	241.6	241.6	241.6	244.3	241.6	244.3	244.3	246.9	246.9	252.3	254.9
70°	196.5	193.9	191.2	191.2	191.2	191.2	188.5	191.2	191.2	193.9	193.9
72.5°	151.3	148.7	146.0	143.3	143.3	140.8	138.1	140.8	140.8	143.3	143.3
75°	114.1	108.9	108.9	108.9	106.3	106.3	106.3	108.9	108.9	108.9	111.6
77.5°	84.9	84.9	82.3	82.3	82.3	84.9	84.9	87.6	87.6	87.6	87.6
80°	63.7	66.4	66.4	66.4	66.4	69.1	69.1	69.1	69.1	71.7	71.7
82.5°	47.7	47.7	47.7	47.7	50.4	50.4	50.4	50.4	50.4	50.4	50.4
85°	29.2	31.9	31.9	29.2	31.9	31.9	31.9	31.9	31.9	31.9	31.9
87.5°	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3
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: P584727

CATALOG NUMBER: HC845D010-HM82555927-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1869.4	1869.4	1869.4	1869.4	1869.4	1869.4	1869.4	1869.4
2.5°	1837.6	1837.6	1837.6	1837.6	1834.9	1834.9	1834.9	1832.2
5°	1797.7	1797.7	1797.7	1792.5	1795.0	1795.0	1789.8	1792.5
7.5°	1757.9	1755.3	1752.6	1752.6	1750.0	1747.3	1744.6	1747.3
10°	1712.8	1704.8	1704.8	1702.1	1702.1	1696.9	1696.9	1699.4
12.5°	1662.3	1657.0	1657.0	1654.4	1651.7	1649.0	1646.4	1646.4
15°	1611.8	1606.5	1603.8	1601.3	1598.6	1593.3	1596.0	1593.3
17.5°	1561.4	1553.4	1553.4	1550.8	1548.1	1542.8	1542.8	1540.1
20°	1503.0	1500.4	1495.0	1497.7	1495.0	1489.7	1487.0	1487.0
22.5°	1444.5	1444.5	1442.0	1442.0	1439.3	1436.6	1434.0	1434.0
25°	1388.8	1386.1	1388.8	1388.8	1380.9	1380.9	1380.9	1383.4
27.5°	1325.0	1327.7	1325.0	1325.0	1325.0	1325.0	1327.7	1325.0
30°	1261.3	1261.3	1261.3	1264.0	1269.3	1266.6	1266.6	1264.0
32.5°	1192.4	1194.9	1194.9	1197.6	1200.2	1205.6	1205.6	1208.2
35°	1123.3	1128.5	1131.2	1128.5	1136.5	1136.5	1141.8	1141.8
37.5°	1051.6	1054.2	1059.6	1062.2	1067.5	1070.1	1072.8	1072.8
40°	974.5	985.2	987.8	990.5	998.5	998.5	1001.2	1006.4
42.5°	902.9	913.5	916.1	918.8	924.1	932.1	929.4	934.8
45°	833.8	841.7	844.4	847.1	855.0	857.7	857.7	865.7
47.5°	759.5	764.8	767.4	772.8	778.1	783.3	788.7	786.0
50°	685.1	693.1	698.4	701.0	709.0	711.7	714.4	716.9
52.5°	618.8	624.0	626.7	629.3	637.3	640.0	642.6	648.0
55°	554.9	557.6	562.9	560.3	568.3	570.9	573.6	578.9
57.5°	491.3	494.0	496.5	496.5	501.9	507.2	509.9	512.5
60°	430.1	435.5	438.1	438.1	438.1	443.5	443.5	443.5
62.5°	374.4	374.4	377.1	377.1	382.4	382.4	382.4	382.4
65°	316.0	318.7	321.3	321.3	326.6	324.0	329.3	326.6
67.5°	254.9	254.9	260.3	260.3	257.6	260.3	260.3	260.3
70°	193.9	193.9	196.5	196.5	196.5	196.5	196.5	196.5
72.5°	143.3	143.3	143.3	146.0	143.3	143.3	146.0	143.3
75°	111.6	111.6	111.6	111.6	111.6	111.6	111.6	111.6
77.5°	87.6	87.6	90.3	90.3	90.3	90.3	90.3	90.3
80°	71.7	71.7	71.7	71.7	74.4	71.7	71.7	71.7
82.5°	53.1	50.4	53.1	50.4	53.1	53.1	53.1	53.1
85°	31.9	31.9	31.9	31.9	31.9	31.9	31.9	31.9
87.5°	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3
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)