

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: P584421

Luminaire Tested: **HC835D010-HM82555835-81WWWB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584421
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: HC835D010-HM82555835-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3913.6 lumens
Efficiency: N/A
Efficacy: 116.1 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

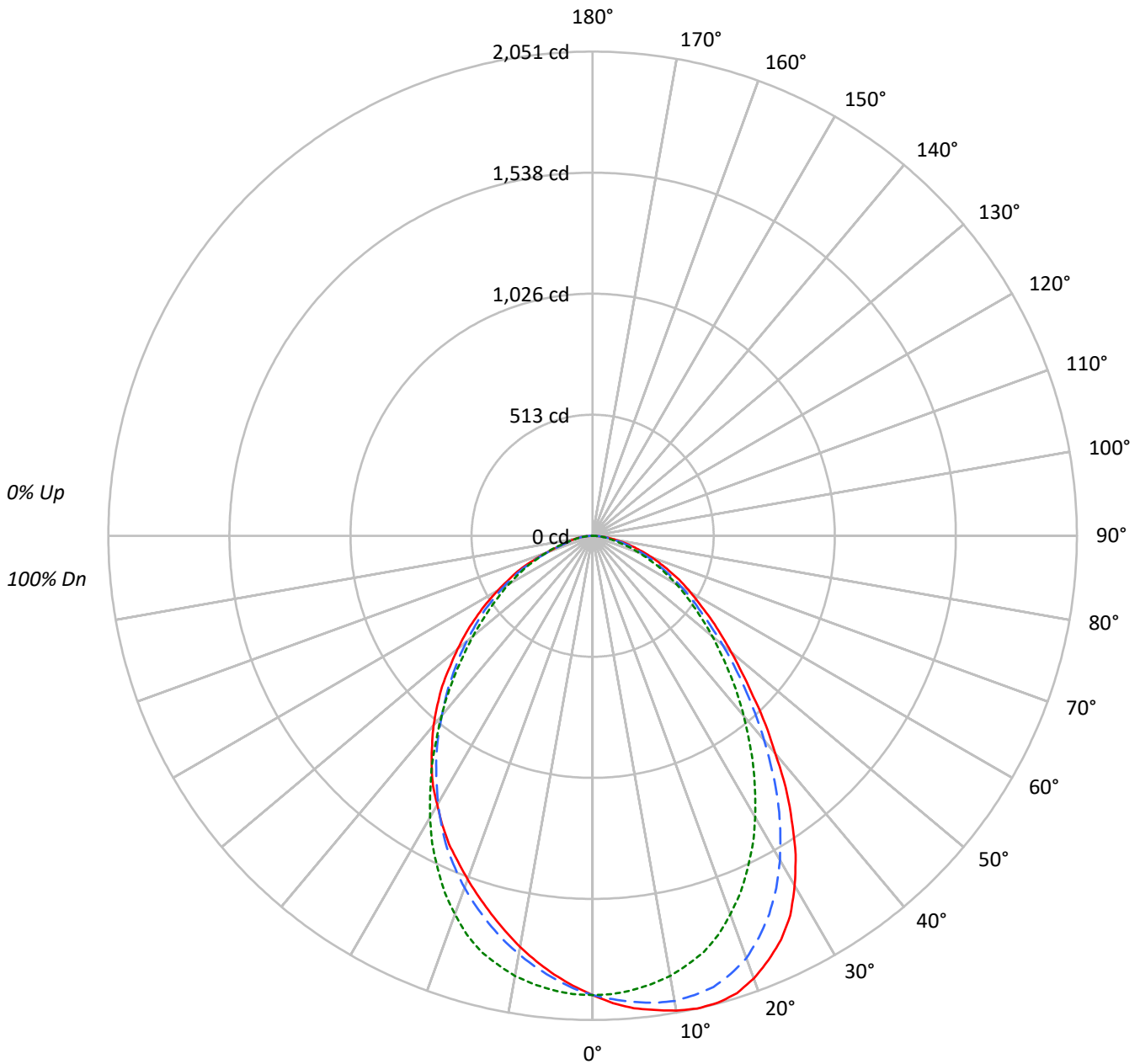
Input Watts (W): 33.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	60004	60004	60004
5°	62199	59803	57754
10°	63958	59283	55391
15°	65384	58239	52943
20°	65486	55967	50792
25°	64231	52853	48998
30°	60923	49013	46844
35°	55352	44638	44740
40°	48397	40057	42166
45°	41948	35677	39296
50°	36728	31691	35797
55°	32692	28085	32397
60°	29486	25230	28468
65°	26625	22189	24808
70°	23928	18690	18438
75°	21076	14821	13832
80°	17687	12271	13247
85°	13692	10756	11746



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.6	4.7
10°-20°	517.0	13.2
20°-30°	738.9	18.9
30°-40°	785.1	20.1
40°-50°	676.0	17.3
50°-60°	505.4	12.9
60°-70°	322.4	8.2
70°-80°	146.7	3.7
80°-90°	38.5	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°	1439.5	36.8
0°-40°	2224.7	56.8
0°-60°	3406.1	87.0
0°-90°	3913.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3913.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1946	1946	1946	1946	1946	
5°	2009	1982	1932	1882	1866	193
15°	2048	1979	1824	1700	1658	577
25°	1888	1769	1553	1459	1440	864
35°	1470	1368	1186	1155	1188	916
45°	962	909	818	840	901	748
55°	608	558	522	567	603	547
65°	365	323	304	318	340	364
75°	177	152	124	113	116	188
85°	39	33	30	33	33	47
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°	1945.9	1945.9	1945.9	1945.9	1945.9	1945.9	1945.9	1945.9	1945.9	1945.9	1945.9
2.5°	1981.9	1976.3	1979.1	1976.3	1979.1	1979.1	1973.5	1973.5	1973.5	1973.5	1965.2
5°	2009.4	2006.6	2006.6	2003.9	2001.1	2003.9	2001.1	1998.4	1992.9	1990.1	1981.9
7.5°	2026.1	2026.1	2026.1	2026.1	2023.3	2020.5	2017.8	2012.3	2006.6	2001.1	1995.6
10°	2042.6	2045.3	2042.6	2039.8	2037.1	2031.6	2028.8	2023.3	2015.0	2006.6	2001.1
12.5°	2051.0	2051.0	2048.1	2048.1	2042.6	2039.8	2031.6	2023.3	2015.0	2006.6	1992.9
15°	2048.1	2048.1	2045.3	2042.6	2034.3	2031.6	2026.1	2017.8	2003.9	1992.9	1979.1
17.5°	2031.6	2028.8	2023.3	2023.3	2012.3	2009.4	2003.9	1992.9	1979.1	1962.4	1945.9
20°	1995.6	1995.6	1992.9	1990.1	1979.1	1970.7	1965.2	1951.4	1940.4	1921.0	1904.5
22.5°	1945.9	1951.4	1945.9	1940.4	1926.5	1923.7	1915.5	1898.9	1882.3	1860.3	1840.8
25°	1887.8	1885.1	1882.3	1876.8	1865.8	1860.3	1849.1	1832.6	1815.9	1791.1	1769.0
27.5°	1813.2	1802.2	1802.2	1791.1	1782.9	1774.5	1769.0	1752.4	1730.3	1711.0	1683.3
30°	1711.0	1713.7	1699.8	1697.1	1683.3	1677.8	1666.7	1650.1	1630.8	1608.7	1586.5
32.5°	1600.4	1592.1	1592.1	1581.0	1570.0	1561.7	1559.0	1539.5	1523.0	1500.9	1478.8
35°	1470.4	1470.4	1462.2	1459.4	1448.4	1442.9	1434.5	1423.5	1404.2	1384.8	1368.2
37.5°	1343.3	1337.8	1335.1	1329.5	1321.2	1312.9	1312.9	1293.6	1290.8	1268.7	1246.6
40°	1202.3	1207.9	1202.3	1194.0	1191.3	1185.8	1183.0	1172.0	1163.6	1144.3	1130.4
42.5°	1083.5	1078.0	1078.0	1075.2	1064.2	1064.2	1058.7	1053.0	1039.3	1033.8	1017.2
45°	961.9	967.4	959.1	961.9	950.9	950.9	950.9	939.8	928.7	920.4	909.4
47.5°	856.8	859.6	859.6	851.3	848.5	848.5	843.0	837.5	829.3	818.1	809.8
50°	765.6	768.4	762.9	760.1	754.6	751.9	751.9	740.7	735.2	724.2	718.7
52.5°	682.7	682.7	680.0	680.0	671.7	671.7	666.1	657.8	652.3	646.8	633.0
55°	608.1	608.1	605.3	602.6	602.6	594.3	591.5	583.2	577.7	566.7	558.4
57.5°	536.2	539.0	536.2	533.5	530.7	528.0	522.4	514.1	508.6	500.3	494.8
60°	478.1	478.1	475.4	472.6	467.1	464.3	461.6	456.1	447.8	442.3	433.9
62.5°	422.9	420.1	417.4	414.6	409.1	409.1	403.6	398.0	389.7	384.2	378.7
65°	364.9	364.9	362.0	362.0	359.3	353.8	351.0	348.3	337.2	334.5	323.3
67.5°	312.3	315.1	309.6	309.6	304.1	304.1	301.3	293.0	290.3	284.6	279.1
70°	265.4	265.4	265.4	262.6	257.1	254.3	251.6	245.9	243.2	237.7	232.2
72.5°	218.4	218.4	215.6	215.6	212.9	210.0	207.3	201.7	201.7	196.2	190.7
75°	176.9	176.9	174.2	171.3	168.6	168.6	165.8	163.0	157.5	154.8	152.0
77.5°	135.5	135.5	135.5	132.6	129.9	129.9	129.9	124.4	118.8	118.8	116.1
80°	99.6	99.6	96.8	96.8	93.9	93.9	93.9	91.2	88.4	85.7	82.9
82.5°	66.4	66.4	66.4	66.4	63.6	63.6	63.6	60.9	58.1	58.1	58.1
85°	38.7	38.7	38.7	38.7	35.9	35.9	35.9	35.9	35.9	33.2	33.2
87.5°	16.5	13.8	16.5	13.8	16.5	13.8	16.5	13.8	13.8	13.8	13.8
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°	1945.9	1945.9	1945.9	1945.9	1945.9	1945.9	1945.9	1945.9	1945.9	1945.9	1945.9
2.5°	1968.0	1965.2	1962.4	1959.7	1959.7	1956.9	1951.4	1948.7	1945.9	1943.2	1943.2
5°	1979.1	1976.3	1970.7	1965.2	1962.4	1956.9	1951.4	1945.9	1940.4	1932.0	1929.3
7.5°	1987.4	1979.1	1973.5	1962.4	1959.7	1954.2	1945.9	1937.6	1926.5	1915.5	1907.2
10°	1987.4	1976.3	1968.0	1954.2	1948.7	1943.2	1932.0	1918.2	1904.5	1893.3	1879.5
12.5°	1981.9	1968.0	1954.2	1940.4	1932.0	1923.7	1907.2	1893.3	1876.8	1860.3	1849.1
15°	1962.4	1945.9	1929.3	1912.7	1904.5	1893.3	1876.8	1857.4	1840.8	1824.3	1804.9
17.5°	1926.5	1910.0	1890.6	1871.3	1860.3	1851.9	1827.1	1813.2	1788.4	1771.7	1755.2
20°	1879.5	1860.3	1835.3	1815.9	1802.2	1793.9	1774.5	1749.7	1730.3	1705.5	1688.8
22.5°	1818.7	1793.9	1769.0	1749.7	1735.8	1724.8	1699.8	1675.0	1658.4	1636.3	1616.9
25°	1746.9	1722.0	1697.1	1669.5	1655.6	1644.6	1622.5	1600.4	1578.2	1553.4	1536.8
27.5°	1661.1	1633.6	1611.4	1586.5	1572.7	1556.2	1531.3	1509.1	1487.1	1470.4	1448.4
30°	1567.2	1536.8	1514.8	1489.8	1476.1	1462.2	1437.4	1415.2	1395.8	1376.5	1365.5
32.5°	1453.9	1431.7	1409.7	1384.8	1373.7	1365.5	1340.6	1318.4	1296.4	1279.7	1271.4
35°	1346.1	1321.2	1301.9	1279.7	1265.9	1257.7	1235.5	1216.2	1205.1	1185.8	1174.8
37.5°	1232.7	1213.5	1191.3	1169.2	1160.9	1152.6	1136.1	1116.7	1100.1	1086.2	1080.7
40°	1113.9	1097.4	1078.0	1064.2	1055.9	1047.5	1033.8	1020.0	1008.8	995.1	989.5
42.5°	1000.6	989.5	972.9	956.4	948.1	945.3	928.7	917.7	912.2	906.6	901.1
45°	898.3	881.7	870.7	859.6	851.3	845.8	837.5	829.3	823.6	818.1	812.6
47.5°	798.8	784.9	773.9	765.6	757.4	754.6	749.1	740.7	735.2	735.2	735.2
50°	707.5	696.5	685.5	680.0	677.2	671.7	666.1	663.3	660.6	660.6	660.6
52.5°	627.4	616.4	608.1	602.6	602.6	597.1	591.5	588.7	588.7	588.7	588.7
55°	552.8	544.5	539.0	533.5	528.0	525.2	525.2	525.2	522.4	522.4	525.2
57.5°	486.5	481.0	472.6	467.1	464.3	464.3	461.6	458.8	461.6	464.3	467.1
60°	425.6	420.1	417.4	409.1	409.1	409.1	406.4	406.4	406.4	409.1	411.9
62.5°	370.4	367.7	362.0	359.3	356.5	356.5	353.8	353.8	353.8	353.8	356.5
65°	320.6	315.1	309.6	309.6	309.6	306.8	306.8	301.3	304.1	304.1	301.3
67.5°	273.6	268.1	265.4	262.6	259.8	259.8	257.1	254.3	251.6	251.6	251.6
70°	229.4	223.9	223.9	218.4	218.4	215.6	212.9	212.9	210.0	207.3	204.5
72.5°	185.2	182.5	179.7	176.9	176.9	176.9	174.2	171.3	168.6	165.8	160.3
75°	146.5	146.5	141.0	138.2	138.2	135.5	132.6	129.9	127.1	124.4	121.6
77.5°	113.3	110.6	105.1	102.3	102.3	102.3	99.6	96.8	93.9	91.2	88.4
80°	82.9	80.1	77.4	74.6	74.6	74.6	71.9	71.9	69.1	69.1	69.1
82.5°	55.2	55.2	52.5	52.5	52.5	52.5	49.7	49.7	49.7	49.7	49.7
85°	33.2	33.2	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4	30.4
87.5°	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
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°	1945.9	1945.9	1945.9	1945.9	1945.9	1945.9	1945.9	1945.9	1945.9	1945.9	1945.9
2.5°	1937.6	1937.6	1932.0	1929.3	1926.5	1929.3	1923.7	1921.0	1918.2	1918.2	1915.5
5°	1921.0	1918.2	1907.2	1904.5	1901.7	1898.9	1893.3	1887.8	1882.3	1879.5	1876.8
7.5°	1898.9	1890.6	1879.5	1876.8	1874.0	1865.8	1857.4	1851.9	1843.6	1840.8	1835.3
10°	1868.5	1857.4	1849.1	1840.8	1835.3	1827.1	1818.7	1810.4	1799.4	1796.6	1788.4
12.5°	1832.6	1818.7	1802.2	1799.4	1791.1	1780.0	1769.0	1760.7	1752.4	1746.9	1738.5
15°	1788.4	1774.5	1757.9	1749.7	1741.3	1733.0	1719.2	1708.2	1699.8	1691.6	1683.3
17.5°	1735.8	1719.2	1705.5	1697.1	1691.6	1677.8	1666.7	1652.9	1644.6	1636.3	1628.0
20°	1672.3	1658.4	1639.1	1630.8	1628.0	1616.9	1603.2	1597.7	1586.5	1578.2	1572.7
22.5°	1600.4	1586.5	1570.0	1564.5	1553.4	1547.8	1534.0	1528.5	1523.0	1514.8	1511.9
25°	1520.3	1506.4	1492.6	1489.8	1481.6	1476.1	1467.7	1459.4	1459.4	1451.1	1451.1
27.5°	1437.4	1423.5	1412.4	1406.9	1404.2	1398.5	1390.3	1387.5	1384.8	1382.0	1382.0
30°	1348.8	1332.3	1326.8	1324.0	1321.2	1315.6	1312.9	1307.4	1310.1	1312.9	1310.1
32.5°	1254.9	1249.4	1238.3	1232.7	1235.5	1232.7	1227.2	1232.7	1230.0	1235.5	1238.3
35°	1163.6	1158.1	1152.6	1152.6	1147.1	1147.1	1147.1	1149.8	1155.4	1158.1	1163.6
37.5°	1075.2	1066.9	1064.2	1061.4	1064.2	1064.2	1064.2	1069.7	1075.2	1080.7	1089.0
40°	981.3	975.7	975.7	975.7	975.7	984.0	981.3	986.8	992.3	1000.6	1008.8
42.5°	892.7	892.7	895.5	895.5	895.5	895.5	901.1	909.4	917.7	925.9	934.2
45°	809.8	809.8	809.8	815.4	815.4	818.1	829.3	834.8	840.3	848.5	856.8
47.5°	732.5	732.5	735.2	738.0	740.7	746.2	751.9	760.1	768.4	773.9	782.2
50°	660.6	663.3	668.8	674.5	674.5	677.2	685.5	691.0	696.5	704.8	707.5
52.5°	591.5	597.1	602.6	605.3	608.1	613.6	616.4	624.6	627.4	635.8	638.5
55°	528.0	530.7	539.0	541.7	541.7	547.2	552.8	558.4	566.7	566.7	572.2
57.5°	469.9	472.6	478.1	481.0	478.1	486.5	489.3	494.8	497.5	503.0	505.8
60°	411.9	417.4	420.1	420.1	422.9	425.6	431.2	431.2	436.7	442.3	442.3
62.5°	356.5	359.3	362.0	364.9	367.7	364.9	373.2	373.2	378.7	381.4	387.0
65°	304.1	306.8	306.8	309.6	309.6	312.3	312.3	315.1	317.8	323.3	326.2
67.5°	251.6	251.6	251.6	254.3	251.6	254.3	254.3	257.1	257.1	262.6	265.4
70°	204.5	201.7	199.0	199.0	199.0	199.0	196.2	199.0	199.0	201.7	201.7
72.5°	157.5	154.8	152.0	149.3	149.3	146.5	143.8	146.5	146.5	149.3	149.3
75°	118.8	113.3	113.3	113.3	110.6	110.6	110.6	113.3	113.3	113.3	116.1
77.5°	88.4	88.4	85.7	85.7	85.7	88.4	88.4	91.2	91.2	91.2	91.2
80°	66.4	69.1	69.1	69.1	69.1	71.9	71.9	71.9	71.9	74.6	74.6
82.5°	49.7	49.7	49.7	49.7	52.5	52.5	52.5	52.5	52.5	52.5	52.5
85°	30.4	33.2	33.2	30.4	33.2	33.2	33.2	33.2	33.2	33.2	33.2
87.5°	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
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: P584421

CATALOG NUMBER: HC835D010-HM82555835-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1945.9	1945.9	1945.9	1945.9	1945.9	1945.9	1945.9	1945.9
2.5°	1912.7	1912.7	1912.7	1912.7	1910.0	1910.0	1910.0	1907.2
5°	1871.3	1871.3	1871.3	1865.8	1868.5	1868.5	1863.0	1865.8
7.5°	1829.8	1827.1	1824.3	1824.3	1821.6	1818.7	1815.9	1818.7
10°	1782.9	1774.5	1774.5	1771.7	1771.7	1766.2	1766.2	1769.0
12.5°	1730.3	1724.8	1724.8	1722.0	1719.2	1716.5	1713.7	1713.7
15°	1677.8	1672.3	1669.5	1666.7	1663.9	1658.4	1661.1	1658.4
17.5°	1625.2	1616.9	1616.9	1614.2	1611.4	1605.9	1605.9	1603.2
20°	1564.5	1561.7	1556.2	1559.0	1556.2	1550.6	1547.8	1547.8
22.5°	1503.6	1503.6	1500.9	1500.9	1498.1	1495.3	1492.6	1492.6
25°	1445.6	1442.9	1445.6	1445.6	1437.4	1437.4	1437.4	1440.1
27.5°	1379.3	1382.0	1379.3	1379.3	1379.3	1379.3	1382.0	1379.3
30°	1312.9	1312.9	1312.9	1315.6	1321.2	1318.4	1318.4	1315.6
32.5°	1241.0	1243.8	1243.8	1246.6	1249.4	1254.9	1254.9	1257.7
35°	1169.2	1174.8	1177.5	1174.8	1183.0	1183.0	1188.5	1188.5
37.5°	1094.6	1097.4	1102.9	1105.6	1111.1	1113.9	1116.7	1116.7
40°	1014.3	1025.5	1028.2	1031.0	1039.3	1039.3	1042.0	1047.5
42.5°	939.8	950.9	953.6	956.4	961.9	970.1	967.4	972.9
45°	868.0	876.2	879.0	881.7	890.0	892.7	892.7	901.1
47.5°	790.6	796.1	798.8	804.3	809.8	815.4	820.9	818.1
50°	713.2	721.4	726.9	729.7	738.0	740.7	743.5	746.2
52.5°	644.0	649.6	652.3	655.1	663.3	666.1	668.8	674.5
55°	577.7	580.4	585.9	583.2	591.5	594.3	597.1	602.6
57.5°	511.3	514.1	516.8	516.8	522.4	528.0	530.7	533.5
60°	447.8	453.3	456.1	456.1	456.1	461.6	461.6	461.6
62.5°	389.7	389.7	392.5	392.5	398.0	398.0	398.0	398.0
65°	329.0	331.7	334.5	334.5	340.0	337.2	342.7	340.0
67.5°	265.4	265.4	270.9	270.9	268.1	270.9	270.9	270.9
70°	201.7	201.7	204.5	204.5	204.5	204.5	204.5	204.5
72.5°	149.3	149.3	149.3	152.0	149.3	149.3	152.0	149.3
75°	116.1	116.1	116.1	116.1	116.1	116.1	116.1	116.1
77.5°	91.2	91.2	93.9	93.9	93.9	93.9	93.9	93.9
80°	74.6	74.6	74.6	74.6	77.4	74.6	74.6	74.6
82.5°	55.2	52.5	55.2	52.5	55.2	55.2	55.2	55.2
85°	33.2	33.2	33.2	33.2	33.2	33.2	33.2	33.2
87.5°	13.8	13.8	13.8	13.8	13.8	13.8	13.8	13.8
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)