

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: P584419

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

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584419  
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: HC835D010-HM82555835-81WWBB  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3443.8 lumens  
Efficiency: N/A  
Efficacy: 102.2 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

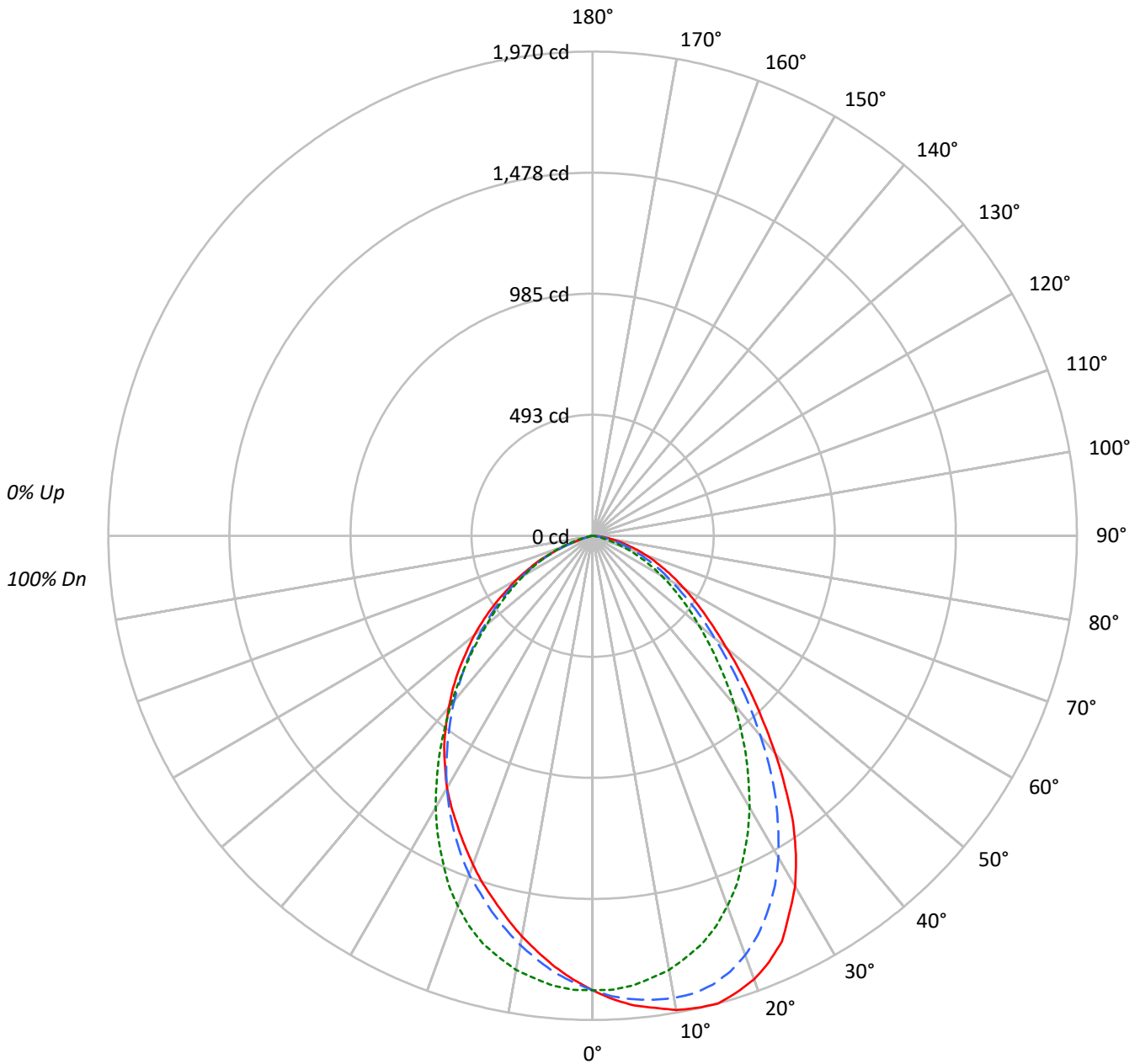
Input Watts (W): 33.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°	57013	57013	57013
5°	59367	56884	54489
10°	61350	56158	51834
15°	62906	54874	49141
20°	63025	52600	46703
25°	61965	49270	44286
30°	58648	45463	42212
35°	53474	40885	39636
40°	46501	36043	36599
45°	39894	31215	33505
50°	34075	26913	30093
55°	29864	23182	26150
60°	26593	19772	21986
65°	23590	16125	17541
70°	20935	11955	9972
75°	17454	6255	2967
80°	13745	1953	497
85°	9800	991	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	174.2	5.1
10°-20°	488.3	14.2
20°-30°	691.1	20.1
30°-40°	723.0	21.0
40°-50°	603.1	17.5
50°-60°	427.6	12.4
60°-70°	246.3	7.2
70°-80°	79.3	2.3
80°-90°	10.9	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°	1353.6	39.3
0°-40°	2076.6	60.3
0°-60°	3107.3	90.2
0°-90°	3443.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3443.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1849	1849	1849	1849	1849	
5°	1918	1893	1838	1782	1760	184
15°	1970	1890	1719	1584	1539	554
25°	1821	1686	1448	1332	1302	831
35°	1420	1296	1086	1028	1053	881
45°	915	840	716	724	768	709
55°	556	497	431	453	486	502
65°	323	271	221	221	240	323
75°	146	108	52	25	25	159
85°	28	14	3	0	0	35
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°	1848.9	1848.9	1848.9	1848.9	1848.9	1848.9	1848.9	1848.9	1848.9	1848.9	1848.9
2.5°	1887.6	1884.8	1881.9	1884.8	1881.9	1884.8	1881.9	1881.9	1879.2	1876.4	1876.4
5°	1917.9	1915.1	1915.1	1915.1	1912.4	1909.6	1909.6	1906.9	1901.3	1898.6	1893.1
7.5°	1937.3	1940.0	1940.0	1940.0	1934.5	1934.5	1929.0	1923.4	1917.9	1912.4	1904.1
10°	1959.3	1959.3	1956.6	1953.8	1948.3	1945.6	1942.8	1937.3	1929.0	1917.9	1909.6
12.5°	1967.7	1967.7	1964.8	1959.3	1956.6	1953.8	1951.1	1942.8	1931.8	1917.9	1906.9
15°	1970.5	1964.8	1962.1	1959.3	1953.8	1945.6	1945.6	1934.5	1920.6	1904.1	1890.3
17.5°	1948.3	1951.1	1945.6	1940.0	1931.8	1926.3	1917.9	1909.6	1893.1	1873.7	1859.9
20°	1920.6	1917.9	1915.1	1906.9	1895.8	1893.1	1884.8	1870.9	1857.1	1835.0	1815.7
22.5°	1876.4	1873.7	1868.2	1862.7	1851.6	1846.1	1837.7	1821.2	1801.8	1779.7	1757.6
25°	1821.2	1815.7	1807.4	1796.3	1788.0	1782.5	1771.5	1754.8	1732.8	1707.9	1685.8
27.5°	1732.8	1741.1	1735.5	1718.9	1710.6	1699.6	1696.8	1674.7	1655.4	1630.5	1605.7
30°	1647.1	1647.1	1638.7	1630.5	1616.7	1608.4	1597.3	1580.8	1561.5	1531.0	1511.6
32.5°	1539.3	1536.6	1525.5	1522.8	1511.6	1495.1	1492.3	1470.2	1450.9	1428.7	1403.9
35°	1420.5	1415.0	1403.9	1395.6	1390.0	1381.8	1373.5	1354.1	1334.8	1312.6	1296.1
37.5°	1285.1	1285.1	1282.3	1268.4	1262.9	1257.4	1249.2	1229.7	1218.7	1196.7	1180.0
40°	1155.2	1152.4	1144.1	1141.3	1135.8	1127.6	1122.0	1110.9	1094.4	1077.8	1061.2
42.5°	1028.0	1030.8	1019.7	1022.5	1011.5	1006.0	1003.2	986.6	978.3	961.8	947.9
45°	914.8	912.0	906.4	903.7	898.1	892.6	887.1	878.9	865.0	848.4	840.2
47.5°	809.7	801.5	801.5	798.7	796.0	784.8	782.1	773.8	765.5	748.9	737.8
50°	710.3	710.3	710.3	707.4	699.2	696.4	690.9	682.6	674.4	663.2	646.7
52.5°	630.1	630.1	630.1	627.3	616.3	613.5	610.7	599.7	588.7	580.3	569.3
55°	555.5	558.3	555.5	550.0	541.6	541.6	533.3	527.8	516.8	508.6	497.4
57.5°	491.9	491.9	486.4	483.6	478.1	475.4	469.9	464.2	450.4	442.2	428.4
60°	431.2	428.4	428.4	422.8	417.3	411.8	409.0	400.7	395.2	381.3	370.3
62.5°	375.8	375.8	370.3	370.3	359.3	359.3	356.5	348.3	339.9	326.1	320.6
65°	323.3	323.3	320.6	317.8	309.6	306.8	304.1	295.7	287.4	279.1	270.9
67.5°	276.4	276.4	270.9	268.1	262.5	259.7	254.2	248.7	240.4	232.2	223.9
70°	232.2	229.4	226.7	223.9	218.3	215.5	210.0	204.5	196.2	190.7	182.5
72.5°	188.0	188.0	185.2	179.6	176.8	174.1	171.3	165.8	157.5	149.3	143.8
75°	146.5	146.5	146.5	140.9	135.4	132.6	132.6	127.1	121.6	113.3	107.8
77.5°	113.3	110.6	107.8	107.8	102.3	99.4	96.7	93.9	85.7	82.9	77.4
80°	77.4	80.1	77.4	74.6	71.9	69.1	69.1	63.6	60.9	55.2	49.7
82.5°	52.5	49.7	49.7	47.0	47.0	44.2	44.2	38.7	35.9	33.2	30.4
85°	27.7	27.7	24.9	24.9	24.9	22.2	22.2	19.3	19.3	16.5	13.8
87.5°	8.3	8.3	8.3	8.3	8.3	8.3	8.3	8.3	5.5	5.5	5.5
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°	1848.9	1848.9	1848.9	1848.9	1848.9	1848.9	1848.9	1848.9	1848.9	1848.9	1848.9
2.5°	1873.7	1868.2	1865.4	1865.4	1862.7	1859.9	1857.1	1854.4	1848.9	1848.9	1843.2
5°	1887.6	1881.9	1879.2	1870.9	1865.4	1865.4	1854.4	1851.6	1843.2	1837.7	1832.2
7.5°	1898.6	1887.6	1879.2	1870.9	1865.4	1859.9	1848.9	1837.7	1826.7	1815.7	1810.2
10°	1898.6	1887.6	1873.7	1859.9	1854.4	1848.9	1835.0	1818.4	1804.7	1793.5	1779.7
12.5°	1893.1	1876.4	1859.9	1848.9	1837.7	1829.5	1812.9	1796.3	1779.7	1757.6	1746.6
15°	1876.4	1854.4	1837.7	1818.4	1810.2	1796.3	1782.5	1757.6	1738.3	1718.9	1705.1
17.5°	1843.2	1815.7	1796.3	1777.0	1763.2	1754.8	1732.8	1710.6	1688.6	1666.4	1649.9
20°	1793.5	1768.7	1746.6	1721.6	1710.6	1699.6	1671.9	1649.9	1627.7	1602.9	1586.3
22.5°	1732.8	1707.9	1677.4	1658.2	1641.6	1627.7	1602.9	1578.0	1555.8	1533.8	1511.6
25°	1658.2	1633.2	1605.7	1575.3	1564.2	1550.3	1522.8	1497.9	1472.9	1448.1	1428.7
27.5°	1578.0	1544.8	1522.8	1489.6	1478.5	1464.7	1434.2	1406.7	1384.5	1365.2	1343.1
30°	1481.3	1456.4	1426.0	1395.6	1384.5	1370.8	1345.8	1321.0	1298.9	1276.8	1254.7
32.5°	1376.3	1351.3	1321.0	1298.9	1282.3	1271.2	1246.4	1224.2	1202.2	1180.0	1160.7
35°	1265.7	1238.1	1216.0	1193.8	1180.0	1166.3	1141.3	1122.0	1105.4	1086.1	1066.7
37.5°	1152.4	1133.1	1110.9	1086.1	1072.2	1061.2	1041.9	1019.7	1006.0	989.3	975.5
40°	1041.9	1019.7	1000.4	978.3	967.3	959.0	939.6	923.1	909.2	895.4	887.1
42.5°	928.6	909.2	889.9	876.1	867.7	859.4	845.7	826.3	818.0	804.2	796.0
45°	823.5	807.0	793.2	773.8	768.3	762.8	746.1	732.3	724.1	715.8	710.3
47.5°	724.1	713.0	696.4	685.4	677.1	671.6	660.5	649.4	641.2	635.7	630.1
50°	638.4	624.5	613.5	602.5	597.0	588.7	577.6	572.0	566.5	561.0	561.0
52.5°	558.3	544.4	533.3	525.1	519.6	514.1	505.7	502.9	497.4	497.4	494.7
55°	483.6	475.4	464.2	453.2	450.4	447.7	442.2	436.7	433.9	431.2	433.9
57.5°	420.0	411.8	400.7	392.5	389.7	387.0	384.1	378.6	375.8	375.8	375.8
60°	362.0	353.8	345.5	337.1	337.1	331.6	328.9	326.1	323.3	320.6	320.6
62.5°	309.6	301.2	292.9	287.4	284.6	281.9	276.4	273.6	270.9	270.9	268.1
65°	262.5	251.5	248.7	240.4	237.7	234.9	232.2	226.7	223.9	221.0	218.3
67.5°	215.5	210.0	201.7	196.2	193.5	190.7	188.0	182.5	179.6	176.8	171.3
70°	174.1	168.6	163.0	157.5	154.8	152.0	146.5	140.9	138.1	132.6	124.4
72.5°	135.4	129.9	124.4	118.8	116.1	113.3	107.8	102.3	96.7	91.2	85.7
75°	102.3	96.7	88.4	82.9	80.1	80.1	71.9	66.4	60.9	52.5	47.0
77.5°	71.9	63.6	60.9	55.2	52.5	47.0	41.5	35.9	30.4	27.7	22.2
80°	47.0	41.5	35.9	33.2	30.4	27.7	24.9	19.3	13.8	11.0	8.3
82.5°	27.7	24.9	22.2	19.3	16.5	13.8	11.0	11.0	8.3	5.5	2.8
85°	13.8	11.0	8.3	8.3	5.5	5.5	5.5	2.8	2.8	2.8	2.8
87.5°	5.5	2.8	2.8	2.8	2.8	2.8	2.8	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°	1848.9	1848.9	1848.9	1848.9	1848.9	1848.9	1848.9	1848.9	1848.9	1848.9	1848.9
2.5°	1840.5	1837.7	1835.0	1832.2	1832.2	1826.7	1826.7	1824.0	1818.4	1815.7	1815.7
5°	1824.0	1815.7	1810.2	1807.4	1804.7	1796.3	1793.5	1788.0	1782.5	1777.0	1774.2
7.5°	1799.0	1785.3	1779.7	1777.0	1768.7	1760.3	1754.8	1746.6	1738.3	1730.0	1727.3
10°	1768.7	1754.8	1741.1	1735.5	1727.3	1721.6	1710.6	1699.6	1691.3	1683.1	1674.7
12.5°	1730.0	1713.4	1699.6	1694.1	1685.8	1674.7	1658.2	1652.6	1638.7	1633.2	1622.2
15°	1685.8	1666.4	1652.6	1644.4	1636.0	1619.5	1608.4	1597.3	1583.5	1578.0	1567.0
17.5°	1630.5	1608.4	1594.5	1586.3	1580.8	1567.0	1550.3	1536.6	1522.8	1517.1	1508.9
20°	1564.2	1550.3	1531.0	1522.8	1517.1	1500.6	1484.1	1478.5	1467.4	1456.4	1448.1
22.5°	1489.6	1475.7	1456.4	1448.1	1445.4	1431.5	1417.7	1409.4	1401.2	1392.8	1384.5
25°	1412.2	1395.6	1379.0	1373.5	1368.0	1356.9	1345.8	1340.3	1332.1	1326.5	1321.0
27.5°	1329.3	1312.6	1298.9	1290.6	1285.1	1276.8	1271.2	1265.7	1260.2	1254.7	1251.9
30°	1240.9	1224.2	1213.2	1207.7	1202.2	1199.4	1191.1	1188.3	1185.5	1180.0	1182.8
32.5°	1152.4	1138.6	1127.6	1119.3	1119.3	1113.7	1110.9	1110.9	1108.1	1108.1	1108.1
35°	1055.7	1047.4	1039.1	1036.4	1033.6	1030.8	1028.0	1030.8	1028.0	1030.8	1033.6
37.5°	967.3	959.0	953.5	950.6	947.9	950.6	947.9	947.9	950.6	956.2	959.0
40°	876.1	870.5	865.0	867.7	865.0	865.0	865.0	873.3	876.1	878.9	881.6
42.5°	790.4	784.8	782.1	782.1	784.8	782.1	787.6	790.4	796.0	804.2	809.7
45°	707.4	704.7	704.7	707.4	704.7	710.3	710.3	715.8	724.1	729.6	735.1
47.5°	630.1	630.1	630.1	632.9	632.9	635.7	641.2	643.9	649.4	654.9	660.5
50°	558.3	561.0	563.8	563.8	563.8	569.3	574.8	577.6	580.3	583.1	591.5
52.5°	494.7	497.4	497.4	500.2	502.9	505.7	508.6	514.1	516.8	522.3	525.1
55°	433.9	433.9	439.4	442.2	442.2	442.2	447.7	447.7	453.2	456.0	461.5
57.5°	375.8	378.6	378.6	381.3	381.3	384.1	387.0	389.7	392.5	395.2	398.0
60°	320.6	320.6	320.6	323.3	326.1	328.9	326.1	331.6	331.6	337.1	339.9
62.5°	268.1	270.9	270.9	270.9	270.9	270.9	270.9	273.6	276.4	279.1	281.9
65°	218.3	218.3	218.3	215.5	218.3	215.5	218.3	221.0	221.0	223.9	226.7
67.5°	168.6	168.6	163.0	163.0	165.8	165.8	165.8	165.8	163.0	168.6	168.6
70°	121.6	118.8	116.1	113.3	113.3	110.6	110.6	107.8	107.8	107.8	107.8
72.5°	80.1	74.6	69.1	66.4	63.6	63.6	58.0	55.2	58.0	58.0	58.0
75°	41.5	35.9	33.2	30.4	27.7	27.7	24.9	24.9	24.9	24.9	24.9
77.5°	16.5	13.8	11.0	11.0	8.3	8.3	8.3	8.3	8.3	8.3	8.3
80°	5.5	5.5	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
82.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
85°	2.8	0.0	0.0	2.8	0.0	2.8	2.8	2.8	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: P584419

CATALOG NUMBER: HC835D010-HM82555835-81WWBB

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1848.9	1848.9	1848.9	1848.9	1848.9	1848.9	1848.9	1848.9
2.5°	1812.9	1812.9	1810.2	1812.9	1807.4	1810.2	1807.4	1807.4
5°	1771.5	1766.0	1766.0	1766.0	1763.2	1763.2	1760.3	1760.3
7.5°	1721.6	1718.9	1716.1	1713.4	1710.6	1707.9	1707.9	1707.9
10°	1671.9	1666.4	1666.4	1663.7	1658.2	1655.4	1655.4	1655.4
12.5°	1613.9	1611.2	1608.4	1608.4	1597.3	1600.0	1597.3	1597.3
15°	1558.6	1555.8	1555.8	1547.6	1542.1	1542.1	1542.1	1539.3
17.5°	1500.6	1497.9	1495.1	1489.6	1484.1	1484.1	1481.3	1484.1
20°	1439.9	1437.0	1431.5	1431.5	1428.7	1426.0	1420.5	1423.2
22.5°	1379.0	1373.5	1370.8	1370.8	1368.0	1368.0	1362.5	1362.5
25°	1315.4	1312.6	1309.9	1312.6	1307.1	1307.1	1301.6	1301.6
27.5°	1249.2	1246.4	1246.4	1246.4	1243.6	1246.4	1243.6	1243.6
30°	1182.8	1182.8	1180.0	1180.0	1182.8	1180.0	1182.8	1185.5
32.5°	1110.9	1110.9	1113.7	1113.7	1116.5	1116.5	1116.5	1116.5
35°	1036.4	1041.9	1041.9	1044.7	1047.4	1050.2	1050.2	1052.9
37.5°	967.3	970.0	972.8	975.5	981.0	981.0	981.0	981.0
40°	892.6	895.4	900.9	898.1	909.2	912.0	909.2	909.2
42.5°	815.2	820.7	823.5	829.0	831.9	837.4	840.2	840.2
45°	743.4	746.1	751.7	757.3	760.0	768.3	768.3	768.3
47.5°	668.8	674.4	677.1	682.6	685.4	693.6	696.4	693.6
50°	597.0	602.5	608.0	608.0	616.3	619.0	624.5	627.3
52.5°	527.8	530.6	536.1	538.9	544.4	550.0	552.8	555.5
55°	461.5	464.2	469.9	469.9	478.1	480.9	486.4	486.4
57.5°	400.7	403.5	409.0	406.2	411.8	417.3	417.3	414.5
60°	342.6	342.6	342.6	348.3	351.0	353.8	356.5	356.5
62.5°	281.9	287.4	290.2	290.2	292.9	295.7	295.7	292.9
65°	226.7	232.2	234.9	234.9	237.7	237.7	237.7	240.4
67.5°	171.3	171.3	171.3	174.1	171.3	171.3	171.3	171.3
70°	107.8	107.8	107.8	107.8	105.1	107.8	107.8	110.6
72.5°	58.0	58.0	58.0	58.0	58.0	58.0	58.0	58.0
75°	24.9	24.9	24.9	27.7	24.9	24.9	24.9	24.9
77.5°	11.0	8.3	11.0	11.0	8.3	8.3	8.3	8.3
80°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
82.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
85°	0.0	2.8	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)