

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: P584489

Luminaire Tested: **HC835D010-HM82555935-81WWWB**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584489  
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-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: 3649.7 lumens  
Efficiency: N/A  
Efficacy: 108.3 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

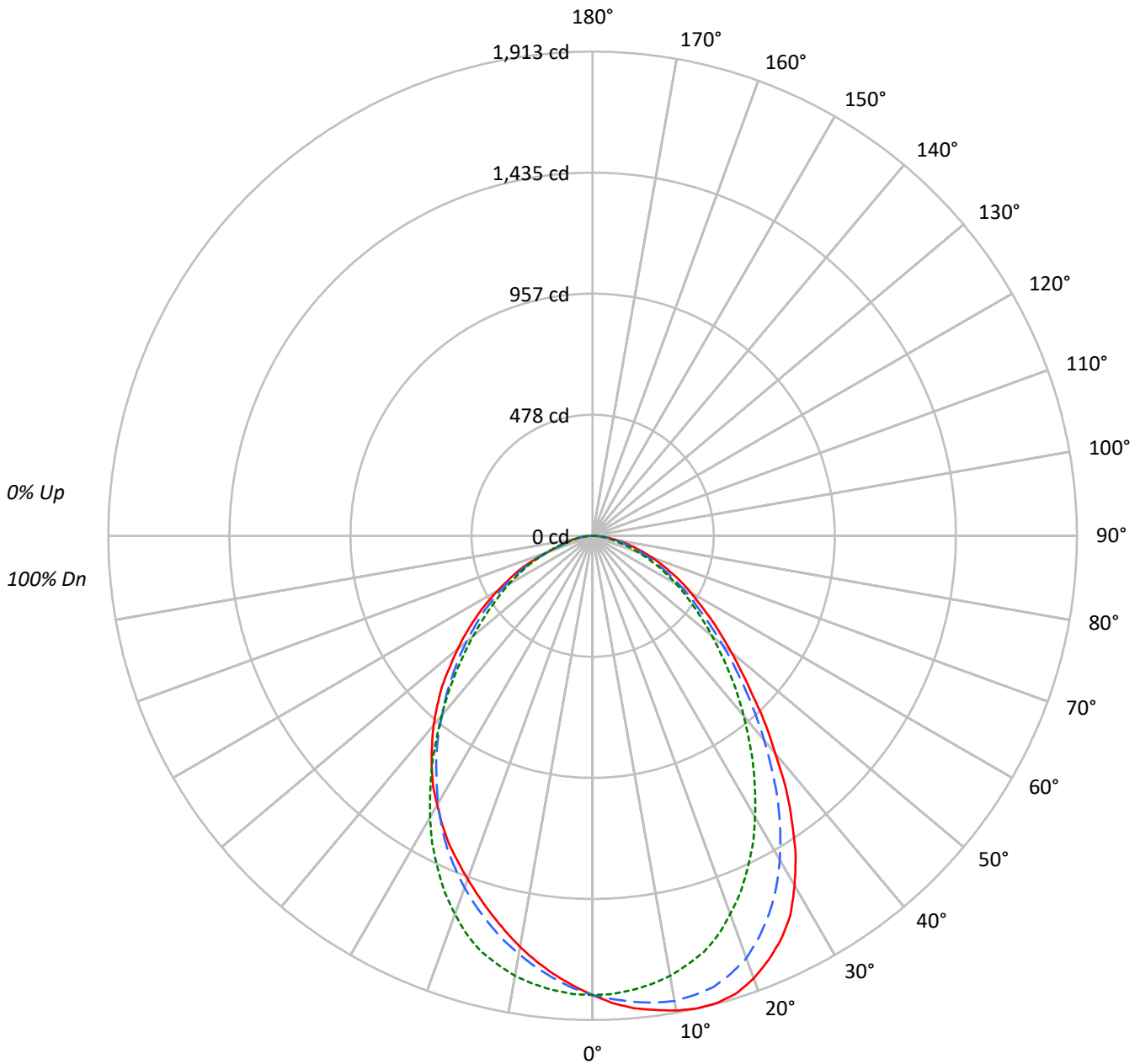
Input Watts (W): 33.7  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	55956	55956	55956
5°	58005	55773	53857
10°	59643	55284	51652
15°	60975	54312	49374
20°	61073	52186	47369
25°	59899	49287	45694
30°	56811	45708	43689
35°	51625	41627	41725
40°	45133	37356	39328
45°	39122	33274	36645
50°	34253	29551	33384
55°	30488	26193	30209
60°	27500	23522	26544
65°	24823	20693	23130
70°	22314	17437	17193
75°	19658	13821	12903
80°	16479	11454	12360
85°	12772	10048	10933



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	171.2	4.7
10°-20°	482.2	13.2
20°-30°	689.1	18.9
30°-40°	732.2	20.1
40°-50°	630.4	17.3
50°-60°	471.3	12.9
60°-70°	300.6	8.2
70°-80°	136.8	3.7
80°-90°	35.9	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°	1342.5	36.8
0°-40°	2074.6	56.8
0°-60°	3176.3	87.0
0°-90°	3649.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3649.7	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1815	1815	1815	1815	1815	
5°	1874	1848	1802	1755	1740	180
15°	1910	1846	1701	1585	1547	538
25°	1760	1650	1449	1361	1343	806
35°	1371	1276	1106	1078	1108	854
45°	897	848	763	784	840	697
55°	567	521	487	528	562	510
65°	340	302	284	296	317	339
75°	165	142	116	106	108	175
85°	36	31	28	31	31	43
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°	1814.6	1814.6	1814.6	1814.6	1814.6	1814.6	1814.6	1814.6	1814.6	1814.6	1814.6
2.5°	1848.2	1843.0	1845.5	1843.0	1845.5	1845.5	1840.4	1840.4	1840.4	1840.4	1832.7
5°	1873.9	1871.4	1871.4	1868.8	1866.2	1868.8	1866.2	1863.6	1858.5	1855.9	1848.2
7.5°	1889.4	1889.4	1889.4	1889.4	1886.8	1884.2	1881.7	1876.5	1871.4	1866.2	1861.1
10°	1904.8	1907.5	1904.8	1902.3	1899.7	1894.5	1892.0	1886.8	1879.1	1871.4	1866.2
12.5°	1912.6	1912.6	1910.0	1910.0	1904.8	1902.3	1894.5	1886.8	1879.1	1871.4	1858.5
15°	1910.0	1910.0	1907.5	1904.8	1897.2	1894.5	1889.4	1881.7	1868.8	1858.5	1845.5
17.5°	1894.5	1892.0	1886.8	1886.8	1876.5	1873.9	1868.8	1858.5	1845.5	1830.1	1814.6
20°	1861.1	1861.1	1858.5	1855.9	1845.5	1837.9	1832.7	1819.8	1809.5	1791.5	1776.0
22.5°	1814.6	1819.8	1814.6	1809.5	1796.6	1794.0	1786.3	1770.9	1755.3	1734.7	1716.7
25°	1760.5	1757.9	1755.3	1750.2	1739.9	1734.7	1724.4	1708.9	1693.5	1670.3	1649.6
27.5°	1691.0	1680.6	1680.6	1670.3	1662.6	1654.8	1649.6	1634.2	1613.6	1595.5	1569.7
30°	1595.5	1598.1	1585.2	1582.7	1569.7	1564.6	1554.3	1538.8	1520.7	1500.1	1479.5
32.5°	1492.5	1484.7	1484.7	1474.4	1464.1	1456.4	1453.8	1435.7	1420.2	1399.6	1379.0
35°	1371.4	1371.4	1363.6	1360.9	1350.6	1345.5	1337.8	1327.5	1309.4	1291.4	1275.9
37.5°	1252.7	1247.6	1245.0	1239.8	1232.1	1224.4	1224.4	1206.4	1203.8	1183.1	1162.5
40°	1121.2	1126.5	1121.2	1113.5	1110.9	1105.8	1103.2	1092.9	1085.1	1067.2	1054.2
42.5°	1010.4	1005.2	1005.2	1002.7	992.4	992.4	987.3	982.1	969.2	964.0	948.6
45°	897.1	902.2	894.4	897.1	886.8	886.8	886.8	876.3	866.0	858.4	848.1
47.5°	799.1	801.6	801.6	793.9	791.3	791.3	786.1	781.0	773.3	763.0	755.2
50°	714.0	716.5	711.4	708.9	703.7	701.1	701.1	690.8	685.6	675.3	670.2
52.5°	636.6	636.6	634.1	634.1	626.3	626.3	621.2	613.5	608.3	603.2	590.3
55°	567.1	567.1	564.5	561.9	561.9	554.2	551.6	543.9	538.7	528.4	520.7
57.5°	500.0	502.7	500.0	497.5	494.9	492.4	487.2	479.4	474.3	466.5	461.3
60°	445.9	445.9	443.4	440.7	435.6	433.1	430.4	425.3	417.6	412.5	404.7
62.5°	394.4	391.7	389.2	386.6	381.4	381.4	376.3	371.1	363.5	358.3	353.2
65°	340.2	340.2	337.7	337.7	335.1	329.9	327.4	324.8	314.5	311.8	301.5
67.5°	291.2	293.9	288.7	288.7	283.6	283.6	280.9	273.3	270.6	265.5	260.3
70°	247.5	247.5	247.5	244.9	239.7	237.1	234.6	229.4	226.8	221.6	216.5
72.5°	203.7	203.7	201.0	201.0	198.5	195.9	193.4	188.2	188.2	183.1	177.9
75°	165.0	165.0	162.4	159.8	157.2	157.2	154.7	152.0	146.9	144.4	141.7
77.5°	126.3	126.3	126.3	123.8	121.1	121.1	121.1	116.0	110.8	110.8	108.3
80°	92.8	92.8	90.2	90.2	87.7	87.7	87.7	85.1	82.5	79.9	77.3
82.5°	61.8	61.8	61.8	61.8	59.3	59.3	59.3	56.7	54.1	54.1	54.1
85°	36.1	36.1	36.1	36.1	33.5	33.5	33.5	33.5	33.5	30.9	30.9
87.5°	15.5	12.9	15.5	12.9	15.5	12.9	15.5	12.9	12.9	12.9	12.9
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°	1814.6	1814.6	1814.6	1814.6	1814.6	1814.6	1814.6	1814.6	1814.6	1814.6	1814.6
2.5°	1835.2	1832.7	1830.1	1827.5	1827.5	1824.9	1819.8	1817.2	1814.6	1812.1	1812.1
5°	1845.5	1843.0	1837.9	1832.7	1830.1	1824.9	1819.8	1814.6	1809.5	1801.8	1799.2
7.5°	1853.3	1845.5	1840.4	1830.1	1827.5	1822.4	1814.6	1806.9	1796.6	1786.3	1778.6
10°	1853.3	1843.0	1835.2	1822.4	1817.2	1812.1	1801.8	1788.9	1776.0	1765.6	1752.8
12.5°	1848.2	1835.2	1822.4	1809.5	1801.8	1794.0	1778.6	1765.6	1750.2	1734.7	1724.4
15°	1830.1	1814.6	1799.2	1783.7	1776.0	1765.6	1750.2	1732.2	1716.7	1701.3	1683.2
17.5°	1796.6	1781.2	1763.1	1745.0	1734.7	1727.0	1703.8	1691.0	1667.7	1652.3	1636.8
20°	1752.8	1734.7	1711.6	1693.5	1680.6	1672.9	1654.8	1631.7	1613.6	1590.3	1574.9
22.5°	1696.1	1672.9	1649.6	1631.7	1618.7	1608.4	1585.2	1562.1	1546.6	1526.0	1507.9
25°	1629.0	1605.9	1582.7	1556.9	1544.0	1533.7	1513.1	1492.5	1471.9	1448.6	1433.2
27.5°	1549.1	1523.4	1502.8	1479.5	1466.7	1451.3	1428.0	1407.4	1386.8	1371.4	1350.6
30°	1461.6	1433.2	1412.6	1389.3	1376.5	1363.6	1340.3	1319.7	1301.7	1283.7	1273.4
32.5°	1355.8	1335.2	1314.6	1291.4	1281.0	1273.4	1250.1	1229.5	1208.9	1193.4	1185.7
35°	1255.3	1232.1	1214.1	1193.4	1180.5	1172.8	1152.2	1134.1	1123.8	1105.8	1095.5
37.5°	1149.6	1131.6	1110.9	1090.3	1082.6	1074.8	1059.4	1041.3	1025.8	1013.0	1007.9
40°	1038.8	1023.3	1005.2	992.4	984.6	977.0	964.0	951.1	940.8	928.0	922.8
42.5°	933.1	922.8	907.4	891.9	884.1	881.5	866.0	855.7	850.6	845.4	840.3
45°	837.8	822.3	812.0	801.6	793.9	788.8	781.0	773.3	768.2	763.0	757.9
47.5°	744.9	732.1	721.7	714.0	706.2	703.7	698.6	690.8	685.6	685.6	685.6
50°	659.9	649.6	639.3	634.1	631.5	626.3	621.2	618.6	616.0	616.0	616.0
52.5°	585.1	574.8	567.1	561.9	561.9	556.7	551.6	549.0	549.0	549.0	549.0
55°	515.5	507.8	502.7	497.5	492.4	489.7	489.7	489.7	487.2	487.2	489.7
57.5°	453.7	448.5	440.7	435.6	433.1	433.1	430.4	427.9	430.4	433.1	435.6
60°	396.9	391.7	389.2	381.4	381.4	381.4	378.9	378.9	378.9	381.4	384.1
62.5°	345.4	342.9	337.7	335.1	332.6	332.6	329.9	329.9	329.9	329.9	332.6
65°	299.0	293.9	288.7	288.7	288.7	286.1	286.1	280.9	283.6	283.6	280.9
67.5°	255.2	250.0	247.5	244.9	242.4	242.4	239.7	237.1	234.6	234.6	234.6
70°	214.0	208.8	208.8	203.7	203.7	201.0	198.5	198.5	195.9	193.4	190.7
72.5°	172.8	170.1	167.6	165.0	165.0	165.0	162.4	159.8	157.2	154.7	149.5
75°	136.6	136.6	131.4	128.9	128.9	126.3	123.8	121.1	118.6	116.0	113.5
77.5°	105.7	103.1	98.0	95.4	95.4	95.4	92.8	90.2	87.7	85.1	82.5
80°	77.3	74.8	72.1	69.6	69.6	69.6	67.0	67.0	64.5	64.5	64.5
82.5°	51.5	51.5	49.0	49.0	49.0	49.0	46.4	46.4	46.4	46.4	46.4
85°	30.9	30.9	28.4	28.4	28.4	28.4	28.4	28.4	28.4	28.4	28.4
87.5°	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9
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°	1814.6	1814.6	1814.6	1814.6	1814.6	1814.6	1814.6	1814.6	1814.6	1814.6	1814.6
2.5°	1806.9	1806.9	1801.8	1799.2	1796.6	1799.2	1794.0	1791.5	1788.9	1788.9	1786.3
5°	1791.5	1788.9	1778.6	1776.0	1773.4	1770.9	1765.6	1760.5	1755.3	1752.8	1750.2
7.5°	1770.9	1763.1	1752.8	1750.2	1747.6	1739.9	1732.2	1727.0	1719.2	1716.7	1711.6
10°	1742.5	1732.2	1724.4	1716.7	1711.6	1703.8	1696.1	1688.3	1678.0	1675.4	1667.7
12.5°	1708.9	1696.1	1680.6	1678.0	1670.3	1659.9	1649.6	1642.0	1634.2	1629.0	1621.4
15°	1667.7	1654.8	1639.3	1631.7	1623.9	1616.2	1603.3	1593.0	1585.2	1577.5	1569.7
17.5°	1618.7	1603.3	1590.3	1582.7	1577.5	1564.6	1554.3	1541.5	1533.7	1526.0	1518.2
20°	1559.4	1546.6	1528.5	1520.7	1518.2	1507.9	1495.0	1489.8	1479.5	1471.9	1466.7
22.5°	1492.5	1479.5	1464.1	1458.9	1448.6	1443.5	1430.5	1425.4	1420.2	1412.6	1409.9
25°	1417.7	1404.8	1392.0	1389.3	1381.7	1376.5	1368.7	1360.9	1360.9	1353.3	1353.3
27.5°	1340.3	1327.5	1317.2	1312.0	1309.4	1304.3	1296.6	1294.0	1291.4	1288.8	1288.8
30°	1257.9	1242.4	1237.3	1234.7	1232.1	1227.0	1224.4	1219.2	1221.8	1224.4	1221.8
32.5°	1170.2	1165.1	1154.8	1149.6	1152.2	1149.6	1144.4	1149.6	1147.1	1152.2	1154.8
35°	1085.1	1080.0	1074.8	1074.8	1069.7	1069.7	1069.7	1072.3	1077.5	1080.0	1085.1
37.5°	1002.7	994.9	992.4	989.8	992.4	992.4	992.4	997.6	1002.7	1007.9	1015.5
40°	915.0	909.9	909.9	909.9	909.9	917.7	915.0	920.2	925.3	933.1	940.8
42.5°	832.6	832.6	835.1	835.1	835.1	835.1	840.3	848.1	855.7	863.5	871.2
45°	755.2	755.2	755.2	760.4	760.4	763.0	773.3	778.5	783.6	791.3	799.1
47.5°	683.1	683.1	685.6	688.3	690.8	695.9	701.1	708.9	716.5	721.7	729.5
50°	616.0	618.6	623.8	628.9	628.9	631.5	639.3	644.4	649.6	657.3	659.9
52.5°	551.6	556.7	561.9	564.5	567.1	572.3	574.8	582.6	585.1	592.9	595.4
55°	492.4	494.9	502.7	505.2	505.2	510.3	515.5	520.7	528.4	528.4	533.6
57.5°	438.2	440.7	445.9	448.5	445.9	453.7	456.2	461.3	464.0	469.1	471.7
60°	384.1	389.2	391.7	391.7	394.4	396.9	402.2	402.2	407.3	412.5	412.5
62.5°	332.6	335.1	337.7	340.2	342.9	340.2	348.0	348.0	353.2	355.7	360.8
65°	283.6	286.1	286.1	288.7	288.7	291.2	291.2	293.9	296.4	301.5	304.2
67.5°	234.6	234.6	234.6	237.1	234.6	237.1	237.1	239.7	239.7	244.9	247.5
70°	190.7	188.2	185.6	185.6	185.6	185.6	183.1	185.6	185.6	188.2	188.2
72.5°	146.9	144.4	141.7	139.2	139.2	136.6	134.1	136.6	136.6	139.2	139.2
75°	110.8	105.7	105.7	105.7	103.1	103.1	103.1	105.7	105.7	105.7	108.3
77.5°	82.5	82.5	79.9	79.9	79.9	82.5	82.5	85.1	85.1	85.1	85.1
80°	61.8	64.5	64.5	64.5	64.5	67.0	67.0	67.0	67.0	69.6	69.6
82.5°	46.4	46.4	46.4	46.4	49.0	49.0	49.0	49.0	49.0	49.0	49.0
85°	28.4	30.9	30.9	28.4	30.9	30.9	30.9	30.9	30.9	30.9	30.9
87.5°	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9
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: P584489

CATALOG NUMBER: HC835D010-HM82555935-81WWWB

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1814.6	1814.6	1814.6	1814.6	1814.6	1814.6	1814.6	1814.6
2.5°	1783.7	1783.7	1783.7	1783.7	1781.2	1781.2	1781.2	1778.6
5°	1745.0	1745.0	1745.0	1739.9	1742.5	1742.5	1737.3	1739.9
7.5°	1706.4	1703.8	1701.3	1701.3	1698.6	1696.1	1693.5	1696.1
10°	1662.6	1654.8	1654.8	1652.3	1652.3	1647.1	1647.1	1649.6
12.5°	1613.6	1608.4	1608.4	1605.9	1603.3	1600.6	1598.1	1598.1
15°	1564.6	1559.4	1556.9	1554.3	1551.8	1546.6	1549.1	1546.6
17.5°	1515.6	1507.9	1507.9	1505.3	1502.8	1497.6	1497.6	1495.0
20°	1458.9	1456.4	1451.3	1453.8	1451.3	1446.1	1443.5	1443.5
22.5°	1402.3	1402.3	1399.6	1399.6	1397.1	1394.5	1392.0	1392.0
25°	1348.1	1345.5	1348.1	1348.1	1340.3	1340.3	1340.3	1343.0
27.5°	1286.3	1288.8	1286.3	1286.3	1286.3	1286.3	1288.8	1286.3
30°	1224.4	1224.4	1224.4	1227.0	1232.1	1229.5	1229.5	1227.0
32.5°	1157.4	1159.9	1159.9	1162.5	1165.1	1170.2	1170.2	1172.8
35°	1090.3	1095.5	1098.1	1095.5	1103.2	1103.2	1108.4	1108.4
37.5°	1020.7	1023.3	1028.5	1031.0	1036.2	1038.8	1041.3	1041.3
40°	945.9	956.2	958.9	961.4	969.2	969.2	971.8	977.0
42.5°	876.3	886.8	889.3	891.9	897.1	904.7	902.2	907.4
45°	809.4	817.2	819.7	822.3	830.0	832.6	832.6	840.3
47.5°	737.2	742.4	744.9	750.1	755.2	760.4	765.5	763.0
50°	665.0	672.8	677.9	680.5	688.3	690.8	693.4	695.9
52.5°	600.6	605.7	608.3	610.9	618.6	621.2	623.8	628.9
55°	538.7	541.3	546.4	543.9	551.6	554.2	556.7	561.9
57.5°	476.8	479.4	482.1	482.1	487.2	492.4	494.9	497.5
60°	417.6	422.8	425.3	425.3	425.3	430.4	430.4	430.4
62.5°	363.5	363.5	366.0	366.0	371.1	371.1	371.1	371.1
65°	306.7	309.3	311.8	311.8	317.0	314.5	319.6	317.0
67.5°	247.5	247.5	252.7	252.7	250.0	252.7	252.7	252.7
70°	188.2	188.2	190.7	190.7	190.7	190.7	190.7	190.7
72.5°	139.2	139.2	139.2	141.7	139.2	139.2	141.7	139.2
75°	108.3	108.3	108.3	108.3	108.3	108.3	108.3	108.3
77.5°	85.1	85.1	87.7	87.7	87.7	87.7	87.7	87.7
80°	69.6	69.6	69.6	69.6	72.1	69.6	69.6	69.6
82.5°	51.5	49.0	51.5	49.0	51.5	51.5	51.5	51.5
85°	30.9	30.9	30.9	30.9	30.9	30.9	30.9	30.9
87.5°	12.9	12.9	12.9	12.9	12.9	12.9	12.9	12.9
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)