

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: P584590

Luminaire Tested: **HC840D010-HM82555927-81WWW**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584590  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-16)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC840D010-HM82555927-81WWW  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3392.4 lumens  
Efficiency: N/A  
Efficacy: 82.7 lumens/watt  
Spacing Criteria (0/90/45): 1.09 / 1.04 / 1.13  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

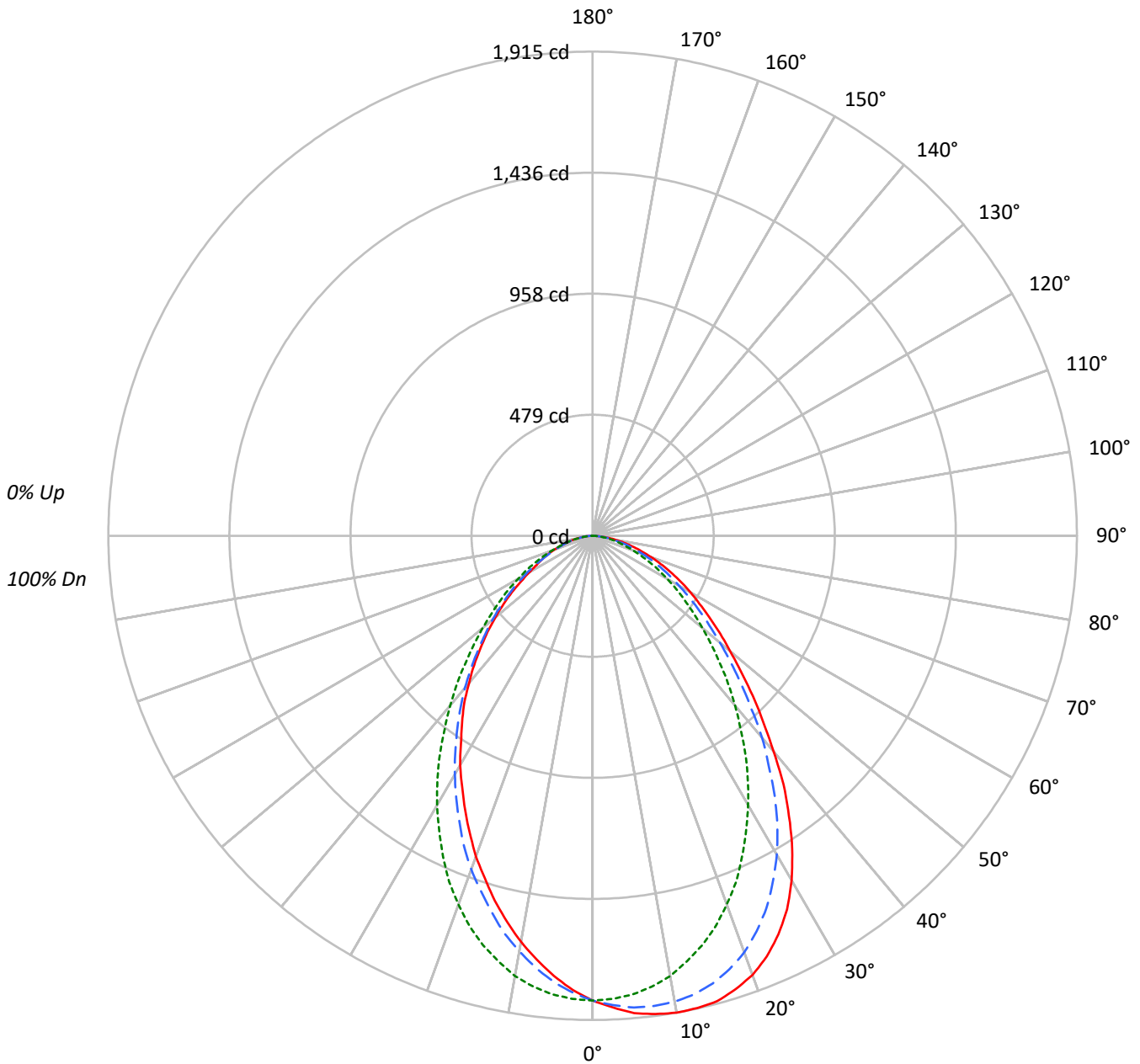
Input Watts (W): 41  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P584590

CATALOG NUMBER: HC840D010-HM82555927-81WWW

### Luminous Intensity Polar Plot





TEST NUMBER: P584590

CATALOG NUMBER: HC840D010-HM82555927-81WWW

**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
RC	80									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	93	91	89	87																			
2	102	95	89	84	99	93	88	83	90	85	81	86	83	79	83	80	78	76																			
3	94	85	78	72	92	83	77	71	81	75	70	78	73	69	75	71	68	66																			
4	87	76	69	63	85	75	68	62	73	67	62	71	65	61	68	64	60	58																			
5	81	69	61	55	79	68	61	55	66	60	54	64	59	54	63	57	53	51																			
6	75	63	55	49	73	62	55	49	61	54	49	59	53	48	57	52	48	46																			
7	70	58	50	44	69	57	50	44	56	49	44	54	48	44	53	48	43	41																			
8	66	53	46	40	64	53	45	40	51	45	40	50	44	40	49	44	39	38																			
9	62	49	42	37	60	49	42	37	48	41	36	47	41	36	46	40	36	34																			
10	58	46	39	34	57	45	38	34	44	38	33	44	38	33	43	37	33	32																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°
0°	56683	56683	56683
5°	58677	56358	54117
10°	59975	55369	51073
15°	60828	53505	47691
20°	60646	50906	44278
25°	59148	47607	40645
30°	56038	43782	37302
35°	50982	39624	33895
40°	44778	35242	30617
45°	39048	30997	27304
50°	33979	27162	24049
55°	30305	23870	20919
60°	27537	20919	17842
65°	24750	18197	16191
70°	22035	15516	14615
75°	19313	13070	12474
80°	16373	10637	11081
85°	12348	7961	8845



TEST NUMBER: P584590

CATALOG NUMBER: HC840D010-HM82555927-81WWW

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	172.2	5.1
10°-20°	474.4	14.0
20°-30°	658.5	19.4
30°-40°	680.8	20.1
40°-50°	570.0	16.8
50°-60°	413.8	12.2
60°-70°	261.1	7.7
70°-80°	129.4	3.8
80°-90°	32.2	0.9
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°	1305.0	38.5
0°-40°	1985.8	58.5
0°-60°	2969.7	87.5
0°-90°	3392.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3392.4	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1838	1838	1838	1838	1838	
5°	1896	1873	1821	1771	1748	181
15°	1905	1833	1676	1541	1494	536
25°	1738	1626	1399	1247	1195	797
35°	1354	1254	1053	933	900	843
45°	895	830	711	641	626	693
55°	564	514	444	406	389	509
65°	339	297	249	219	222	338
75°	162	135	110	105	105	174
85°	35	28	22	25	25	42
90°	0	0	0	0	0	



TEST NUMBER: P584590

CATALOG NUMBER: HC840D010-HM82555927-81WWW

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1838.2	1838.2	1838.2	1838.2	1838.2	1838.2	1838.2	1838.2	1838.2	1838.2	1838.2
2.5°	1868.1	1868.1	1870.6	1868.1	1868.1	1868.1	1865.6	1865.6	1863.1	1863.1	1858.1
5°	1895.6	1890.6	1895.6	1890.6	1890.6	1890.6	1888.1	1883.1	1880.6	1875.6	1873.1
7.5°	1907.9	1905.4	1905.4	1903.0	1903.0	1900.5	1898.0	1895.6	1885.6	1883.1	1875.6
10°	1915.4	1912.9	1912.9	1910.4	1905.4	1905.4	1900.5	1898.0	1885.6	1880.6	1870.6
12.5°	1912.9	1912.9	1912.9	1910.4	1903.0	1900.5	1895.6	1888.1	1878.1	1868.1	1858.1
15°	1905.4	1905.4	1900.5	1898.0	1890.6	1885.6	1883.1	1870.6	1860.6	1848.1	1833.2
17.5°	1880.6	1880.6	1878.1	1873.1	1865.6	1860.6	1855.6	1843.2	1833.2	1813.2	1798.2
20°	1848.1	1845.6	1843.2	1835.7	1828.2	1825.7	1818.2	1800.7	1788.2	1773.3	1753.3
22.5°	1800.7	1798.2	1795.7	1790.7	1778.3	1773.3	1768.3	1755.8	1733.4	1718.5	1693.5
25°	1738.4	1738.4	1733.4	1725.9	1713.5	1708.5	1701.0	1688.5	1668.5	1646.1	1626.1
27.5°	1666.0	1663.5	1656.1	1651.1	1641.1	1633.6	1621.1	1606.1	1586.3	1568.8	1543.8
30°	1573.8	1573.8	1568.8	1561.3	1548.8	1543.8	1533.9	1516.4	1496.4	1474.1	1456.6
32.5°	1469.1	1469.1	1461.6	1456.6	1449.1	1436.6	1434.1	1414.2	1396.7	1379.2	1359.3
35°	1354.3	1356.8	1351.8	1341.8	1329.3	1329.3	1324.4	1306.9	1287.0	1269.5	1254.5
37.5°	1239.6	1232.1	1229.6	1224.6	1217.1	1207.1	1202.1	1194.6	1177.3	1164.8	1142.3
40°	1112.4	1114.9	1109.9	1104.9	1102.4	1094.9	1092.4	1079.9	1067.4	1052.6	1042.6
42.5°	997.7	997.7	997.7	992.7	987.7	980.2	977.7	970.2	955.2	945.2	930.3
45°	895.4	887.9	887.9	885.4	882.9	877.9	870.5	865.5	855.5	848.0	830.5
47.5°	795.6	798.1	795.6	793.1	785.6	783.1	780.6	770.6	760.6	753.3	740.8
50°	708.3	713.3	708.3	708.3	703.3	700.8	695.8	688.4	680.9	668.4	655.9
52.5°	635.9	635.9	633.6	631.1	623.6	618.6	616.1	613.6	601.1	591.1	581.1
55°	563.7	566.2	566.2	558.7	556.2	551.2	548.7	541.2	536.2	521.2	513.8
57.5°	501.3	498.8	501.3	496.3	491.4	486.4	483.9	478.9	471.4	461.4	451.5
60°	446.5	441.5	441.5	439.0	434.0	431.5	426.5	419.0	411.5	401.5	394.0
62.5°	391.6	389.1	386.6	384.1	379.1	376.6	374.1	366.6	359.1	351.6	344.1
65°	339.2	339.2	336.7	331.8	329.3	326.8	324.3	319.3	309.3	304.3	296.8
67.5°	291.8	289.3	289.3	284.3	279.3	276.8	276.8	271.9	264.4	256.9	251.9
70°	244.4	246.9	244.4	241.9	236.9	236.9	231.9	229.4	219.4	216.9	209.6
72.5°	202.1	202.1	199.6	199.6	194.6	192.1	192.1	187.1	182.1	177.1	172.1
75°	162.1	162.1	162.1	159.6	157.1	152.1	152.1	149.7	144.7	139.7	134.7
77.5°	127.2	124.7	124.7	122.2	119.7	117.2	117.2	114.7	109.7	107.2	102.2
80°	92.2	89.8	89.8	89.8	84.8	87.3	84.8	82.3	79.8	77.4	74.9
82.5°	59.9	62.4	62.4	59.9	57.4	57.4	57.4	54.9	54.9	52.4	49.9
85°	34.9	34.9	34.9	34.9	32.4	32.4	32.4	30.0	30.0	30.0	27.5
87.5°	15.0	15.0	15.0	15.0	15.0	15.0	12.5	12.5	12.5	12.5	12.5
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: P584590

CATALOG NUMBER: HC840D010-HM82555927-81WWW

**CANDELA DISTRIBUTION (continued):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1838.2	1838.2	1838.2	1838.2	1838.2	1838.2	1838.2	1838.2	1838.2	1838.2	1838.2
2.5°	1858.1	1853.1	1850.6	1848.1	1848.1	1845.6	1843.2	1838.2	1838.2	1833.2	1830.7
5°	1868.1	1860.6	1855.6	1850.6	1848.1	1843.2	1838.2	1830.7	1828.2	1820.7	1813.2
7.5°	1870.6	1858.1	1853.1	1843.2	1838.2	1833.2	1823.2	1815.7	1805.7	1798.2	1788.2
10°	1860.6	1850.6	1838.2	1825.7	1823.2	1815.7	1800.7	1790.7	1778.3	1768.3	1753.3
12.5°	1845.6	1830.7	1818.2	1803.2	1795.7	1788.2	1773.3	1758.3	1740.9	1723.5	1708.5
15°	1820.7	1803.2	1785.7	1768.3	1758.3	1750.8	1733.4	1716.0	1698.5	1676.0	1661.1
17.5°	1783.3	1763.3	1745.8	1723.5	1713.5	1706.0	1683.5	1663.5	1641.1	1618.6	1603.6
20°	1735.9	1711.0	1691.0	1666.0	1658.6	1646.1	1623.6	1601.3	1576.3	1551.3	1533.9
22.5°	1673.5	1648.6	1626.1	1601.3	1588.8	1576.3	1553.8	1526.4	1501.4	1481.6	1464.1
25°	1601.3	1578.8	1551.3	1528.9	1513.9	1498.9	1474.1	1451.6	1429.1	1399.2	1381.7
27.5°	1521.4	1493.9	1474.1	1444.1	1429.1	1419.2	1391.7	1361.7	1341.8	1314.4	1294.5
30°	1431.6	1406.7	1384.2	1354.3	1339.3	1329.3	1304.4	1277.0	1257.0	1229.6	1209.6
32.5°	1336.8	1309.4	1282.0	1262.0	1244.5	1234.6	1207.1	1189.6	1164.8	1142.3	1119.8
35°	1234.6	1207.1	1187.1	1159.8	1149.8	1139.8	1117.4	1094.9	1072.4	1052.6	1035.1
37.5°	1124.8	1104.9	1082.4	1062.4	1055.1	1045.1	1017.6	997.7	980.2	960.2	945.2
40°	1017.6	1000.1	985.2	965.2	952.7	945.2	925.3	907.9	887.9	875.5	860.5
42.5°	920.3	900.4	885.4	870.5	858.0	850.5	833.0	820.5	805.6	793.1	775.6
45°	818.0	808.1	790.6	778.1	770.6	760.6	748.3	733.3	720.8	710.8	698.3
47.5°	728.3	718.3	705.8	690.9	685.9	678.4	665.9	655.9	645.9	635.9	623.6
50°	645.9	633.6	623.6	613.6	608.6	601.1	588.6	583.6	576.1	566.2	558.7
52.5°	571.2	561.2	551.2	538.7	536.2	531.2	523.7	513.8	506.3	501.3	496.3
55°	503.8	493.8	486.4	476.4	473.9	468.9	458.9	453.9	449.0	444.0	439.0
57.5°	444.0	434.0	424.0	419.0	414.0	409.0	406.5	399.0	394.0	391.6	386.6
60°	389.1	379.1	371.6	364.1	361.6	359.1	354.1	349.1	344.1	339.2	336.7
62.5°	336.7	326.8	321.8	316.8	311.8	311.8	306.8	301.8	296.8	294.3	289.3
65°	289.3	284.3	276.8	269.4	266.9	266.9	259.4	256.9	254.4	249.4	244.4
67.5°	244.4	239.4	231.9	229.4	226.9	224.4	221.9	216.9	211.9	209.6	204.6
70°	204.6	199.6	194.6	192.1	189.6	187.1	182.1	179.6	174.6	172.1	169.6
72.5°	164.6	162.1	157.1	154.6	152.1	149.7	147.2	144.7	139.7	137.2	134.7
75°	132.2	129.7	124.7	122.2	119.7	119.7	117.2	112.2	109.7	109.7	107.2
77.5°	99.7	97.2	94.7	92.2	89.8	89.8	87.3	84.8	82.3	82.3	79.8
80°	72.4	69.9	67.4	67.4	67.4	64.9	62.4	62.4	59.9	59.9	57.4
82.5°	47.4	47.4	44.9	44.9	44.9	42.4	42.4	39.9	39.9	39.9	39.9
85°	27.5	27.5	27.5	25.0	25.0	25.0	25.0	25.0	25.0	22.5	25.0
87.5°	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	10.0	10.0	10.0
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: P584590

CATALOG NUMBER: HC840D010-HM82555927-81WWW

**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1838.2	1838.2	1838.2	1838.2	1838.2	1838.2	1838.2	1838.2	1838.2	1838.2	1838.2
2.5°	1828.2	1825.7	1820.7	1820.7	1815.7	1815.7	1813.2	1810.7	1808.2	1805.7	1803.2
5°	1810.7	1800.7	1795.7	1793.2	1788.2	1785.7	1778.3	1773.3	1770.8	1765.8	1760.8
7.5°	1778.3	1768.3	1758.3	1755.8	1753.3	1743.4	1735.9	1728.4	1723.5	1718.5	1713.5
10°	1740.9	1730.9	1718.5	1713.5	1708.5	1696.0	1686.0	1678.5	1668.5	1658.6	1656.1
12.5°	1696.0	1681.0	1666.0	1661.1	1653.6	1641.1	1631.1	1618.6	1611.1	1598.8	1596.3
15°	1643.6	1626.1	1613.6	1601.3	1596.3	1583.8	1566.3	1556.3	1541.4	1536.4	1523.9
17.5°	1581.3	1563.8	1546.3	1541.4	1533.9	1516.4	1498.9	1486.4	1471.6	1464.1	1456.6
20°	1516.4	1493.9	1476.6	1471.6	1461.6	1446.6	1429.1	1416.7	1404.2	1389.2	1381.7
22.5°	1441.6	1416.7	1401.7	1389.2	1386.7	1369.2	1349.3	1339.3	1329.3	1316.9	1306.9
25°	1359.3	1336.8	1319.4	1309.4	1304.4	1289.5	1274.5	1262.0	1247.0	1239.6	1227.1
27.5°	1274.5	1259.5	1237.1	1227.1	1219.6	1207.1	1189.6	1182.1	1167.3	1157.3	1149.8
30°	1192.1	1169.8	1157.3	1144.8	1137.3	1124.8	1109.9	1102.4	1089.9	1079.9	1072.4
32.5°	1102.4	1087.4	1069.9	1064.9	1055.1	1042.6	1032.6	1020.1	1010.1	1000.1	997.7
35°	1020.1	1000.1	982.7	977.7	970.2	957.7	952.7	945.2	932.8	930.3	920.3
37.5°	930.3	920.3	900.4	892.9	890.4	880.4	870.5	865.5	858.0	850.5	848.0
40°	845.5	833.0	823.0	815.6	810.6	803.1	793.1	790.6	785.6	775.6	773.1
42.5°	765.6	753.3	743.3	740.8	733.3	725.8	720.8	713.3	710.8	708.3	703.3
45°	688.4	680.9	670.9	668.4	665.9	655.9	650.9	645.9	640.9	638.4	633.6
47.5°	618.6	611.1	603.6	601.1	596.1	593.6	586.1	583.6	576.1	573.7	571.2
50°	551.2	546.2	541.2	538.7	533.7	531.2	526.2	521.2	516.2	513.8	511.3
52.5°	491.4	486.4	481.4	478.9	476.4	471.4	466.4	461.4	458.9	456.4	453.9
55°	434.0	429.0	426.5	424.0	421.5	419.0	411.5	409.0	406.5	404.0	399.0
57.5°	381.6	376.6	371.6	371.6	369.1	366.6	361.6	356.6	356.6	351.6	346.6
60°	334.2	329.3	324.3	321.8	319.3	314.3	311.8	309.3	306.8	304.3	299.3
62.5°	284.3	281.8	276.8	276.8	271.9	269.4	266.9	264.4	261.9	256.9	254.4
65°	241.9	239.4	234.4	231.9	231.9	229.4	224.4	221.9	219.4	219.4	216.9
67.5°	202.1	199.6	194.6	192.1	192.1	189.6	187.1	187.1	184.6	182.1	184.6
70°	167.1	162.1	162.1	159.6	159.6	157.1	154.6	154.6	154.6	157.1	157.1
72.5°	132.2	129.7	127.2	127.2	127.2	127.2	124.7	124.7	127.2	129.7	129.7
75°	104.7	102.2	102.2	102.2	99.7	99.7	102.2	102.2	104.7	104.7	104.7
77.5°	77.4	77.4	77.4	77.4	77.4	77.4	79.8	79.8	82.3	82.3	82.3
80°	57.4	57.4	57.4	57.4	57.4	59.9	59.9	59.9	59.9	59.9	62.4
82.5°	39.9	39.9	39.9	39.9	39.9	39.9	39.9	42.4	42.4	42.4	42.4
85°	22.5	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
87.5°	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
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: P584590

CATALOG NUMBER: HC840D010-HM82555927-81WWW

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1838.2	1838.2	1838.2	1838.2	1838.2	1838.2	1838.2	1838.2
2.5°	1800.7	1800.7	1800.7	1803.2	1798.2	1798.2	1798.2	1798.2
5°	1758.3	1755.8	1753.3	1755.8	1750.8	1750.8	1748.3	1748.3
7.5°	1706.0	1703.5	1701.0	1701.0	1696.0	1696.0	1693.5	1691.0
10°	1648.6	1643.6	1646.1	1641.1	1638.6	1636.1	1633.6	1631.1
12.5°	1586.3	1581.3	1578.8	1573.8	1568.8	1566.3	1568.8	1563.8
15°	1518.9	1511.4	1508.9	1503.9	1498.9	1496.4	1496.4	1493.9
17.5°	1444.1	1439.1	1436.6	1431.6	1429.1	1424.1	1421.6	1419.2
20°	1374.2	1361.7	1364.2	1359.3	1356.8	1346.8	1346.8	1349.3
22.5°	1297.0	1289.5	1284.5	1279.5	1277.0	1272.0	1272.0	1269.5
25°	1219.6	1212.1	1209.6	1204.6	1202.1	1197.1	1194.6	1194.6
27.5°	1144.8	1134.8	1134.8	1129.8	1124.8	1122.3	1119.8	1117.4
30°	1064.9	1057.6	1055.1	1055.1	1052.6	1052.6	1045.1	1047.6
32.5°	990.2	985.2	982.7	977.7	977.7	975.2	975.2	967.7
35°	915.3	907.9	910.4	905.4	902.9	900.4	902.9	900.4
37.5°	843.0	838.0	838.0	833.0	833.0	830.5	828.0	833.0
40°	770.6	768.1	765.6	763.1	765.6	763.1	758.1	760.6
42.5°	698.3	698.3	695.8	695.8	693.4	693.4	693.4	693.4
45°	633.6	631.1	631.1	628.6	628.6	628.6	628.6	626.1
47.5°	568.7	566.2	566.2	566.2	563.7	563.7	561.2	563.7
50°	506.3	506.3	503.8	503.8	506.3	503.8	501.3	501.3
52.5°	449.0	449.0	446.5	446.5	444.0	441.5	444.0	444.0
55°	396.5	394.0	391.6	391.6	389.1	386.6	386.6	389.1
57.5°	346.6	344.1	341.6	341.6	336.7	334.2	334.2	334.2
60°	299.3	294.3	294.3	291.8	291.8	289.3	289.3	289.3
62.5°	254.4	251.9	251.9	251.9	251.9	249.4	249.4	249.4
65°	216.9	216.9	216.9	219.4	219.4	221.9	221.9	221.9
67.5°	187.1	189.6	189.6	189.6	192.1	192.1	192.1	189.6
70°	159.6	159.6	159.6	162.1	162.1	162.1	162.1	162.1
72.5°	132.2	132.2	132.2	132.2	132.2	132.2	132.2	132.2
75°	104.7	107.2	107.2	107.2	104.7	107.2	107.2	104.7
77.5°	82.3	82.3	82.3	82.3	82.3	82.3	82.3	82.3
80°	62.4	62.4	62.4	62.4	62.4	62.4	62.4	62.4
82.5°	42.4	42.4	42.4	42.4	42.4	42.4	42.4	42.4
85°	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
87.5°	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
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)