

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: P593664

Luminaire Tested: **HC830D010-HM82555850-81RWWC**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P593664  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-14)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 10/21/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HC830D010-HM82555850-81RWWC  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3547.0 lumens  
Efficiency: N/A  
Efficacy: 126.7 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.08 / 1.17  
Luminous Opening: Circular (Dia: 0.67' x H: 0')  
CIE Type: Direct

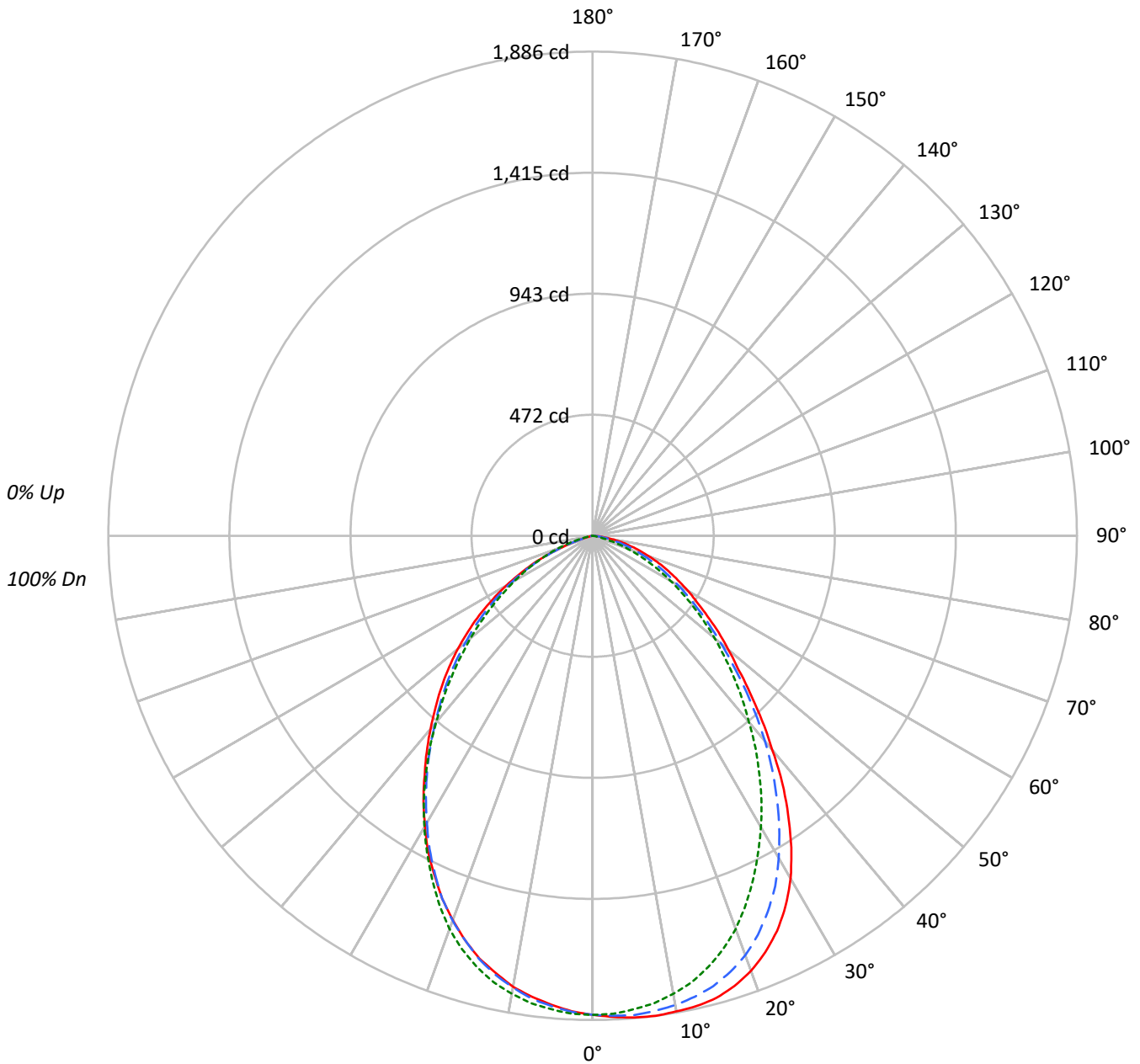
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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			100
1	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88			88
2	103	96	90	85	100	94	89	84	91	86	82	87	84	81	84	82	79	77			77
3	95	86	79	73	93	84	78	73	82	76	72	79	74	70	76	73	69	67			67
4	88	77	70	64	86	76	69	64	74	68	63	72	66	62	69	65	61	59			59
5	81	70	62	56	80	69	62	56	67	61	56	65	59	55	63	58	54	52			52
6	76	64	56	50	74	63	55	50	61	55	50	60	54	49	58	53	49	47			47
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42			42
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38			38
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35			35
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32			32

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

	0°	90°	180°
0°	57550	57550	57550
5°	58308	57308	56767
10°	58904	56719	55864
15°	59500	55526	54408
20°	59199	53473	52249
25°	57817	50274	49594
30°	54920	46666	46488
35°	49995	42583	42960
40°	43833	38112	39521
45°	37813	33902	36292
50°	33111	29762	32871
55°	29332	25590	28940
60°	26427	21518	23972
65°	23816	17271	18365
70°	20890	12586	10107
75°	17812	6529	2681
80°	13727	1776	444
85°	8845	0	0



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	176.1	5.0
10°-20°	495.0	14.0
20°-30°	702.6	19.8
30°-40°	739.6	20.9
40°-50°	629.2	17.7
50°-60°	454.6	12.8
60°-70°	258.6	7.3
70°-80°	81.5	2.3
80°-90°	9.9	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°	1373.7	38.7
0°-40°	2113.2	59.6
0°-60°	3197.0	90.1
0°-90°	3547.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3547.0	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1866	1866	1866	1866	1866	
5°	1884	1874	1851	1839	1834	180
15°	1864	1816	1739	1707	1704	525
25°	1699	1615	1478	1453	1458	778
35°	1328	1251	1131	1124	1141	826
45°	867	835	777	797	832	674
55°	546	506	476	503	538	492
65°	326	282	237	234	252	324
75°	150	115	55	25	22	161
85°	25	15	0	0	0	32
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°	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3
2.5°	1876.2	1878.7	1873.7	1873.7	1878.7	1873.7	1876.2	1876.2	1873.7	1873.7	1871.2
5°	1883.7	1881.2	1881.2	1881.2	1883.7	1878.7	1876.2	1878.7	1873.7	1873.7	1873.7
7.5°	1886.2	1886.2	1883.7	1881.2	1881.2	1881.2	1878.7	1876.2	1873.7	1868.8	1866.3
10°	1881.2	1881.2	1883.7	1878.7	1878.7	1873.7	1873.7	1868.8	1868.8	1863.8	1856.3
12.5°	1876.2	1873.7	1873.7	1868.8	1868.8	1863.8	1863.8	1856.3	1853.9	1846.4	1838.9
15°	1863.8	1861.3	1856.3	1853.9	1851.4	1848.9	1843.9	1841.4	1833.9	1823.9	1816.4
17.5°	1838.9	1836.4	1833.9	1828.9	1823.9	1821.4	1818.9	1811.4	1801.5	1794.1	1781.6
20°	1804.0	1801.5	1801.5	1794.1	1791.6	1784.1	1781.6	1771.6	1764.1	1749.1	1739.3
22.5°	1756.6	1759.1	1754.1	1749.1	1744.1	1736.8	1731.8	1721.8	1709.3	1694.3	1682.0
25°	1699.3	1701.8	1696.8	1691.8	1684.3	1679.5	1674.5	1659.5	1647.0	1629.5	1614.7
27.5°	1627.0	1627.0	1627.0	1622.2	1609.7	1607.2	1602.2	1587.2	1569.7	1554.9	1539.9
30°	1542.4	1539.9	1539.9	1532.4	1527.4	1517.4	1510.0	1497.5	1485.1	1467.6	1450.2
32.5°	1440.2	1442.7	1435.2	1430.2	1422.8	1422.8	1412.8	1402.8	1387.9	1370.4	1353.0
35°	1328.1	1330.6	1325.6	1323.1	1310.6	1308.1	1305.6	1293.2	1283.3	1270.8	1250.8
37.5°	1213.5	1211.0	1208.5	1208.5	1201.0	1196.0	1191.0	1183.5	1168.7	1158.7	1148.7
40°	1088.9	1088.9	1088.9	1086.4	1083.9	1078.9	1076.4	1071.4	1061.4	1051.6	1044.1
42.5°	976.8	976.8	974.3	971.8	966.8	969.3	964.3	959.3	949.3	941.8	936.9
45°	867.1	867.1	867.1	869.6	864.6	857.2	857.2	852.2	847.2	842.2	834.7
47.5°	770.0	777.4	772.4	770.0	772.4	762.5	762.5	757.5	752.5	747.5	737.5
50°	690.2	690.2	690.2	685.2	682.7	682.7	675.2	670.2	667.7	662.7	652.9
52.5°	617.9	612.9	612.9	610.4	607.9	602.9	602.9	598.1	588.1	583.1	575.6
55°	545.6	545.6	543.1	540.8	538.3	535.8	533.3	525.8	520.8	513.3	505.8
57.5°	481.0	485.8	483.4	478.5	473.5	473.5	468.5	463.5	456.0	448.5	441.0
60°	428.5	426.1	426.1	423.6	418.6	416.2	413.7	406.2	398.7	391.2	383.7
62.5°	373.7	373.7	373.7	368.8	363.8	361.3	358.8	353.8	343.9	336.4	331.4
65°	326.4	323.9	321.4	318.9	316.4	311.5	309.0	304.0	296.5	289.0	281.6
67.5°	279.1	276.6	276.6	274.1	266.6	264.1	264.1	256.7	249.2	241.7	234.2
70°	231.7	231.7	231.7	226.7	224.2	221.7	219.3	214.3	206.8	199.4	191.9
72.5°	191.9	189.4	189.4	186.9	179.4	176.9	174.4	169.4	161.9	156.9	152.0
75°	149.5	149.5	147.0	144.5	142.1	139.6	137.1	132.1	124.6	117.1	114.6
77.5°	114.6	112.1	112.1	109.6	104.6	102.1	102.1	97.1	89.7	84.8	79.8
80°	77.3	79.8	77.3	74.8	72.3	69.8	67.3	64.8	59.8	54.8	49.8
82.5°	47.3	49.8	47.3	47.3	44.8	42.3	42.3	37.3	34.8	32.3	29.8
85°	25.0	25.0	25.0	25.0	22.5	22.5	22.5	20.0	17.5	15.0	15.0
87.5°	7.5	10.0	7.5	7.5	7.5	7.5	7.5	7.5	5.0	5.0	5.0
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):**

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3
2.5°	1873.7	1871.2	1868.8	1868.8	1868.8	1868.8	1868.8	1866.3	1863.8	1863.8	1863.8
5°	1868.8	1868.8	1868.8	1866.3	1863.8	1863.8	1858.8	1856.3	1853.9	1851.4	1848.9
7.5°	1863.8	1858.8	1856.3	1853.9	1851.4	1851.4	1846.4	1841.4	1841.4	1836.4	1831.4
10°	1848.9	1846.4	1841.4	1836.4	1833.9	1831.4	1826.4	1818.9	1816.4	1811.4	1806.4
12.5°	1831.4	1826.4	1821.4	1811.4	1808.9	1806.4	1796.6	1789.1	1784.1	1781.6	1769.1
15°	1808.9	1799.0	1791.6	1779.1	1776.6	1771.6	1764.1	1756.6	1746.6	1739.3	1734.3
17.5°	1769.1	1759.1	1746.6	1734.3	1729.3	1729.3	1716.8	1706.8	1694.3	1689.3	1679.5
20°	1721.8	1709.3	1699.3	1684.3	1677.0	1669.5	1662.0	1647.0	1637.0	1629.5	1617.2
22.5°	1667.0	1649.5	1637.0	1622.2	1609.7	1602.2	1589.7	1577.2	1564.8	1557.4	1547.4
25°	1597.2	1582.2	1562.3	1547.4	1539.9	1529.9	1514.9	1502.5	1490.1	1477.6	1472.6
27.5°	1519.9	1500.0	1482.6	1465.1	1457.6	1450.2	1432.7	1417.8	1407.8	1395.4	1390.4
30°	1435.2	1415.3	1395.4	1380.4	1372.9	1360.5	1350.5	1333.1	1320.6	1310.6	1298.2
32.5°	1338.1	1323.1	1305.6	1283.3	1278.3	1268.3	1253.3	1245.8	1230.9	1223.5	1213.5
35°	1233.3	1223.5	1206.0	1188.5	1181.0	1176.0	1163.7	1148.7	1138.7	1131.2	1126.2
37.5°	1133.7	1121.2	1103.9	1091.4	1086.4	1078.9	1063.9	1056.4	1046.6	1041.6	1031.6
40°	1026.6	1014.1	1001.6	994.2	986.8	981.8	971.8	964.3	954.3	946.8	944.3
42.5°	922.0	914.5	904.5	894.5	892.0	884.6	879.6	872.1	864.6	862.1	854.7
45°	827.3	819.8	809.8	799.8	797.3	792.3	789.9	782.4	777.4	777.4	777.4
47.5°	732.5	725.1	715.1	710.2	712.7	702.7	702.7	700.2	695.2	695.2	697.7
50°	647.9	637.9	635.4	630.4	625.4	620.4	622.9	615.4	615.4	620.4	617.9
52.5°	568.1	558.1	555.6	550.6	548.1	548.1	545.6	545.6	543.1	545.6	545.6
55°	495.8	488.3	483.4	478.5	476.0	476.0	476.0	473.5	471.0	476.0	478.5
57.5°	431.0	428.5	423.6	416.2	413.7	411.2	408.7	408.7	408.7	408.7	411.2
60°	373.7	368.8	363.8	356.3	356.3	353.8	351.3	348.9	348.9	348.9	348.9
62.5°	323.9	316.4	309.0	304.0	301.5	299.0	296.5	291.5	291.5	291.5	291.5
65°	274.1	266.6	261.6	256.7	251.7	251.7	246.7	244.2	239.2	236.7	231.7
67.5°	226.7	221.7	216.8	209.3	206.8	204.3	199.4	196.9	189.4	186.9	184.4
70°	184.4	176.9	171.9	166.9	164.4	159.4	154.5	149.5	144.5	139.6	134.6
72.5°	144.5	137.1	132.1	127.1	122.1	122.1	114.6	109.6	102.1	97.1	89.7
75°	107.1	99.6	94.6	87.2	84.8	82.3	74.8	69.8	62.3	54.8	49.8
77.5°	72.3	67.3	62.3	54.8	49.8	49.8	42.3	37.3	32.3	25.0	22.5
80°	44.8	39.8	34.8	29.8	29.8	25.0	22.5	17.5	12.5	10.0	7.5
82.5°	25.0	22.5	20.0	15.0	15.0	12.5	10.0	7.5	5.0	2.5	2.5
85°	12.5	10.0	7.5	7.5	5.0	5.0	5.0	2.5	2.5	0.0	0.0
87.5°	5.0	2.5	2.5	2.5	2.5	2.5	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



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**CANDELA DISTRIBUTION (continued):**

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3
2.5°	1861.3	1861.3	1858.8	1858.8	1858.8	1856.3	1858.8	1856.3	1856.3	1856.3	1858.8
5°	1851.4	1846.4	1846.4	1843.9	1843.9	1841.4	1843.9	1841.4	1838.9	1836.4	1838.9
7.5°	1831.4	1826.4	1823.9	1821.4	1821.4	1821.4	1818.9	1816.4	1818.9	1811.4	1816.4
10°	1804.0	1801.5	1796.6	1794.1	1791.6	1794.1	1791.6	1786.6	1786.6	1786.6	1784.1
12.5°	1769.1	1764.1	1761.6	1759.1	1754.1	1754.1	1756.6	1751.6	1751.6	1746.6	1746.6
15°	1726.8	1721.8	1716.8	1716.8	1711.8	1711.8	1709.3	1709.3	1706.8	1704.3	1704.3
17.5°	1674.5	1667.0	1662.0	1664.5	1662.0	1659.5	1659.5	1654.5	1652.0	1654.5	1654.5
20°	1612.2	1607.2	1602.2	1604.7	1599.7	1597.2	1599.7	1592.2	1594.7	1594.7	1594.7
22.5°	1542.4	1539.9	1532.4	1532.4	1527.4	1524.9	1527.4	1527.4	1529.9	1527.4	1527.4
25°	1465.1	1460.1	1455.2	1455.2	1452.7	1450.2	1452.7	1455.2	1452.7	1455.2	1455.2
27.5°	1382.9	1375.4	1375.4	1370.4	1370.4	1372.9	1370.4	1372.9	1375.4	1375.4	1380.4
30°	1293.2	1290.7	1288.2	1285.7	1285.7	1288.2	1288.2	1288.2	1290.7	1295.7	1295.7
32.5°	1208.5	1203.5	1198.5	1198.5	1203.5	1201.0	1203.5	1203.5	1208.5	1208.5	1213.5
35°	1116.2	1116.2	1111.4	1113.7	1113.7	1113.7	1113.7	1118.7	1123.7	1126.2	1131.2
37.5°	1031.6	1024.1	1026.6	1026.6	1029.1	1026.6	1034.1	1034.1	1039.1	1039.1	1044.1
40°	939.4	939.4	941.8	939.4	941.8	941.8	946.8	951.8	954.3	959.3	961.8
42.5°	852.2	857.2	852.2	854.7	857.2	859.6	862.1	864.6	874.6	879.6	887.0
45°	772.4	774.9	777.4	779.9	777.4	782.4	784.9	789.9	797.3	799.8	802.3
47.5°	695.2	697.7	700.2	702.7	702.7	707.7	710.2	715.1	720.1	722.6	725.1
50°	620.4	625.4	627.9	627.9	630.4	635.4	640.4	640.4	645.4	652.9	655.4
52.5°	553.1	553.1	558.1	560.6	563.1	563.1	570.6	573.1	575.6	580.6	585.6
55°	478.5	485.8	488.3	488.3	493.3	498.3	500.8	503.3	503.3	513.3	513.3
57.5°	413.7	416.2	421.1	421.1	421.1	428.5	428.5	433.5	436.0	438.5	443.5
60°	348.9	353.8	353.8	356.3	353.8	358.8	361.3	366.3	368.8	371.2	373.7
62.5°	289.0	289.0	291.5	291.5	291.5	291.5	296.5	296.5	301.5	304.0	306.5
65°	231.7	231.7	231.7	231.7	231.7	231.7	231.7	231.7	234.2	234.2	239.2
67.5°	179.4	176.9	171.9	174.4	171.9	171.9	169.4	169.4	171.9	171.9	176.9
70°	129.6	127.1	122.1	122.1	119.6	117.1	114.6	112.1	109.6	109.6	109.6
72.5°	84.8	79.8	72.3	69.8	69.8	64.8	59.8	57.3	57.3	57.3	57.3
75°	42.3	37.3	32.3	29.8	29.8	25.0	27.5	25.0	25.0	25.0	25.0
77.5°	17.5	12.5	10.0	10.0	10.0	7.5	7.5	7.5	7.5	7.5	7.5
80°	5.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
82.5°	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	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	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: P593664

CATALOG NUMBER: HC830D010-HM82555850-81RWWC

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3	1866.3
2.5°	1856.3	1856.3	1851.4	1853.9	1853.9	1853.9	1853.9	1853.9
5°	1833.9	1836.4	1833.9	1836.4	1836.4	1833.9	1833.9	1833.9
7.5°	1811.4	1813.9	1811.4	1813.9	1813.9	1813.9	1811.4	1811.4
10°	1784.1	1784.1	1784.1	1784.1	1784.1	1781.6	1784.1	1784.1
12.5°	1746.6	1746.6	1746.6	1749.1	1749.1	1746.6	1746.6	1744.1
15°	1706.8	1701.8	1704.3	1706.8	1704.3	1704.3	1704.3	1704.3
17.5°	1652.0	1654.5	1652.0	1652.0	1652.0	1652.0	1654.5	1652.0
20°	1594.7	1594.7	1597.2	1594.7	1594.7	1594.7	1594.7	1592.2
22.5°	1529.9	1527.4	1527.4	1529.9	1529.9	1527.4	1529.9	1529.9
25°	1457.6	1460.1	1457.6	1457.6	1460.1	1460.1	1460.1	1457.6
27.5°	1380.4	1382.9	1385.4	1382.9	1382.9	1382.9	1385.4	1387.9
30°	1300.6	1305.6	1300.6	1300.6	1305.6	1303.1	1305.6	1305.6
32.5°	1216.0	1223.5	1218.5	1223.5	1223.5	1226.0	1223.5	1226.0
35°	1131.2	1138.7	1138.7	1138.7	1141.2	1143.7	1143.7	1141.2
37.5°	1051.6	1054.0	1054.0	1058.9	1061.4	1063.9	1063.9	1061.4
40°	969.3	974.3	976.8	976.8	976.8	981.8	986.8	981.8
42.5°	889.5	892.0	894.5	894.5	899.5	902.0	904.5	904.5
45°	812.3	817.3	819.8	822.3	824.8	829.7	827.3	832.2
47.5°	732.5	740.0	742.5	745.0	750.0	752.5	755.0	757.5
50°	660.3	665.2	665.2	670.2	677.7	677.7	682.7	685.2
52.5°	588.1	590.6	593.1	595.6	600.4	605.4	605.4	610.4
55°	518.3	520.8	520.8	523.3	525.8	535.8	538.3	538.3
57.5°	446.0	446.0	451.0	453.5	456.0	461.0	461.0	461.0
60°	376.2	378.7	378.7	381.2	383.7	388.7	391.2	388.7
62.5°	306.5	309.0	309.0	311.5	316.4	318.9	316.4	316.4
65°	241.7	244.2	244.2	246.7	251.7	251.7	249.2	251.7
67.5°	176.9	176.9	176.9	176.9	176.9	176.9	176.9	176.9
70°	112.1	109.6	107.1	109.6	109.6	109.6	107.1	112.1
72.5°	54.8	57.3	57.3	57.3	57.3	57.3	57.3	54.8
75°	25.0	25.0	22.5	22.5	22.5	25.0	25.0	22.5
77.5°	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5
80°	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	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)