

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: P584284

Luminaire Tested: **HC830D010-HM82555835-81WWW**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584284  
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: HC830D010-HM82555835-81WWW  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 80CRI / 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3127.8 lumens  
Efficiency: N/A  
Efficacy: 111.7 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

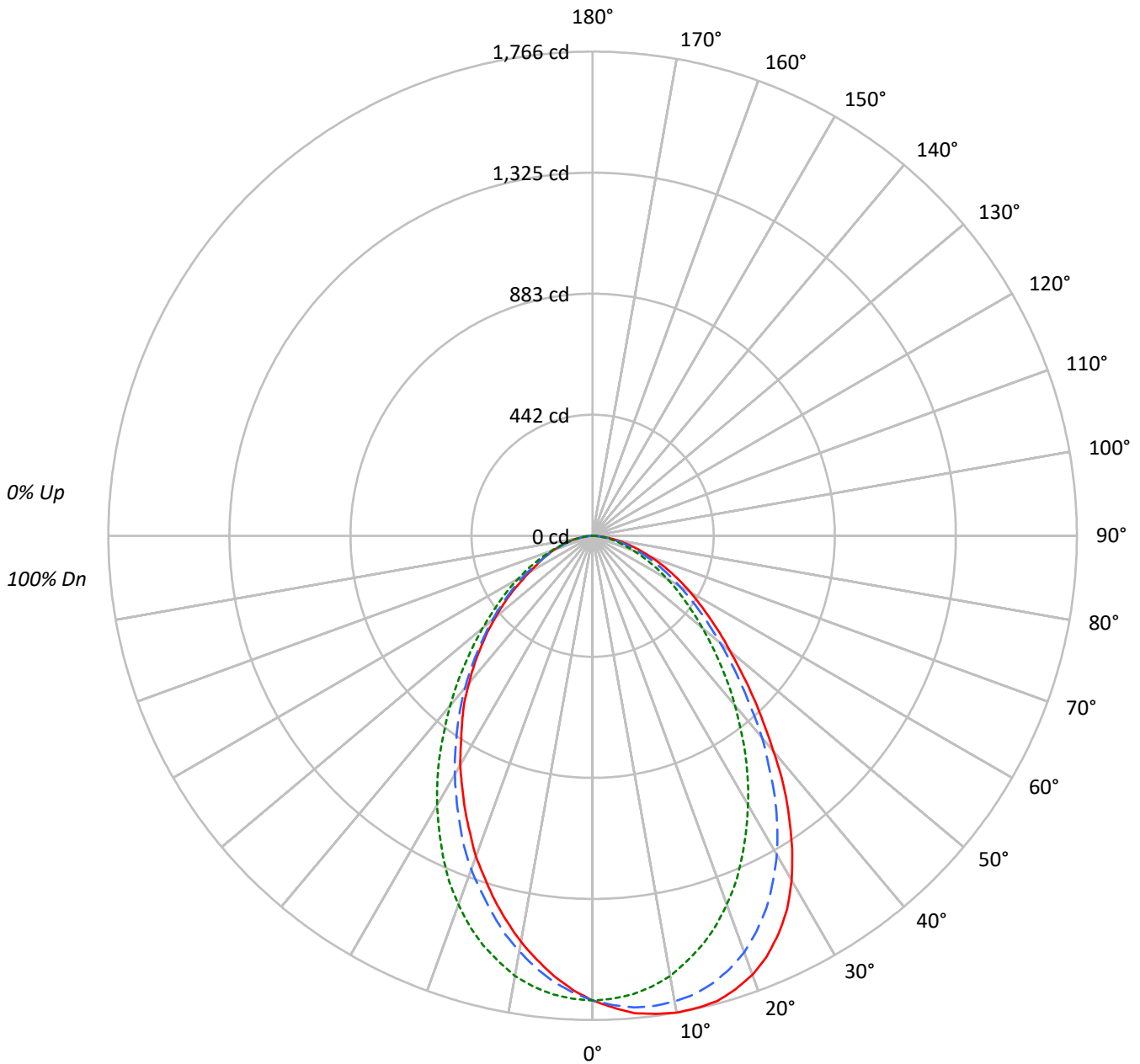
Input Watts (W): 28  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	52261	52261	52261
5°	54098	51963	49898
10°	55297	51051	47093
15°	56087	49332	43975
20°	55917	46939	40826
25°	54534	43895	37478
30°	51669	40367	34389
35°	47006	36534	31252
40°	41284	32493	28234
45°	35999	28581	25167
50°	31331	25042	22173
55°	27940	22010	19284
60°	25384	19285	16448
65°	22816	16782	14929
70°	20313	14299	13479
75°	17812	12057	11497
80°	15112	9802	10211
85°	11393	7324	8102



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	158.7	5.1
10°-20°	437.4	14.0
20°-30°	607.1	19.4
30°-40°	627.7	20.1
40°-50°	525.6	16.8
50°-60°	381.5	12.2
60°-70°	240.8	7.7
70°-80°	119.3	3.8
80°-90°	29.6	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°	1203.3	38.5
0°-40°	1831.0	58.5
0°-60°	2738.1	87.5
0°-90°	3127.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3127.8	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1695	1695	1695	1695	1695	
5°	1748	1727	1679	1633	1612	167
15°	1757	1690	1545	1421	1378	494
25°	1603	1499	1290	1150	1102	734
35°	1249	1157	970	860	830	778
45°	826	766	655	591	577	639
55°	520	474	409	375	359	469
65°	313	274	230	202	205	312
75°	150	124	101	96	96	160
85°	32	25	21	23	23	39
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°	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8
2.5°	1722.4	1722.4	1724.6	1722.4	1722.4	1722.4	1720.1	1720.1	1717.7	1717.7	1713.2
5°	1747.7	1743.1	1747.7	1743.1	1743.1	1743.1	1740.8	1736.2	1733.9	1729.3	1727.0
7.5°	1759.1	1756.9	1756.9	1754.6	1754.6	1752.2	1750.0	1747.7	1738.4	1736.2	1729.3
10°	1766.0	1763.8	1763.8	1761.5	1756.9	1756.9	1752.2	1750.0	1738.4	1733.9	1724.6
12.5°	1763.8	1763.8	1763.8	1761.5	1754.6	1752.2	1747.7	1740.8	1731.5	1722.4	1713.2
15°	1756.9	1756.9	1752.2	1750.0	1743.1	1738.4	1736.2	1724.6	1715.5	1704.0	1690.2
17.5°	1733.9	1733.9	1731.5	1727.0	1720.1	1715.5	1710.9	1699.4	1690.2	1671.9	1657.9
20°	1704.0	1701.7	1699.4	1692.5	1685.6	1683.3	1676.4	1660.3	1648.8	1635.0	1616.6
22.5°	1660.3	1657.9	1655.7	1651.0	1639.6	1635.0	1630.4	1618.9	1598.3	1584.5	1561.4
25°	1602.8	1602.8	1598.3	1591.4	1579.8	1575.2	1568.3	1556.8	1538.4	1517.8	1499.3
27.5°	1536.1	1533.8	1526.9	1522.3	1513.1	1506.2	1494.7	1480.9	1462.6	1446.4	1423.5
30°	1451.1	1451.1	1446.4	1439.5	1428.0	1423.5	1414.2	1398.1	1379.7	1359.0	1343.0
32.5°	1354.5	1354.5	1347.6	1343.0	1336.1	1324.5	1322.3	1303.9	1287.8	1271.6	1253.3
35°	1248.7	1250.9	1246.4	1237.2	1225.6	1225.6	1221.1	1204.9	1186.6	1170.5	1156.7
37.5°	1142.9	1136.0	1133.7	1129.1	1122.2	1113.0	1108.4	1101.5	1085.4	1073.9	1053.2
40°	1025.6	1027.9	1023.4	1018.7	1016.4	1009.5	1007.2	995.7	984.3	970.5	961.2
42.5°	919.8	919.8	919.8	915.3	910.7	903.8	901.4	894.5	880.7	871.5	857.7
45°	825.5	818.6	818.6	816.4	814.1	809.5	802.6	797.9	788.8	781.9	765.7
47.5°	733.6	735.9	733.6	731.2	724.3	722.1	719.8	710.5	701.4	694.5	683.0
50°	653.1	657.6	653.1	653.1	648.5	646.2	641.6	634.7	627.8	616.3	604.8
52.5°	586.4	586.4	584.0	581.8	574.9	570.2	568.0	565.7	554.2	545.0	535.8
55°	519.7	522.0	522.0	515.1	512.8	508.2	505.9	499.0	494.4	480.6	473.7
57.5°	462.2	459.9	462.2	457.6	453.0	448.4	446.1	441.5	434.6	425.4	416.3
60°	411.6	407.0	407.0	404.7	400.1	397.8	393.2	386.3	379.4	370.3	363.4
62.5°	361.0	358.7	356.5	354.1	349.6	347.2	344.9	338.0	331.1	324.2	317.3
65°	312.7	312.7	310.4	305.8	303.6	301.3	298.9	294.4	285.1	280.6	273.7
67.5°	269.1	266.7	266.7	262.2	257.5	255.3	255.3	250.6	243.7	236.8	232.2
70°	225.3	227.7	225.3	223.1	218.4	218.4	213.9	211.5	202.4	200.1	193.2
72.5°	186.3	186.3	183.9	183.9	179.4	177.0	177.0	172.5	167.9	163.2	158.6
75°	149.5	149.5	149.5	147.2	144.8	140.3	140.3	137.9	133.4	128.8	124.1
77.5°	117.2	115.0	115.0	112.7	110.3	108.1	108.1	105.8	101.2	98.9	94.3
80°	85.1	82.8	82.8	82.8	78.2	80.5	78.2	75.9	73.6	71.3	69.0
82.5°	55.2	57.5	57.5	55.2	52.9	52.9	52.9	50.5	50.5	48.3	46.0
85°	32.2	32.2	32.2	32.2	29.8	29.8	29.8	27.6	27.6	27.6	25.3
87.5°	13.8	13.8	13.8	13.8	13.8	13.8	11.5	11.5	11.5	11.5	11.5
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°	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8
2.5°	1713.2	1708.6	1706.3	1704.0	1704.0	1701.7	1699.4	1694.8	1694.8	1690.2	1687.9
5°	1722.4	1715.5	1710.9	1706.3	1704.0	1699.4	1694.8	1687.9	1685.6	1678.7	1671.9
7.5°	1724.6	1713.2	1708.6	1699.4	1694.8	1690.2	1681.0	1674.1	1664.8	1657.9	1648.8
10°	1715.5	1706.3	1694.8	1683.3	1681.0	1674.1	1660.3	1651.0	1639.6	1630.4	1616.6
12.5°	1701.7	1687.9	1676.4	1662.6	1655.7	1648.8	1635.0	1621.2	1605.2	1589.0	1575.2
15°	1678.7	1662.6	1646.5	1630.4	1621.2	1614.3	1598.3	1582.1	1566.0	1545.3	1531.6
17.5°	1644.1	1625.8	1609.7	1589.0	1579.8	1572.9	1552.2	1533.8	1513.1	1492.4	1478.6
20°	1600.5	1577.6	1559.1	1536.1	1529.2	1517.8	1497.1	1476.4	1453.3	1430.4	1414.2
22.5°	1543.0	1520.0	1499.3	1476.4	1464.8	1453.3	1432.6	1407.3	1384.4	1365.9	1349.9
25°	1476.4	1455.7	1430.4	1409.7	1395.9	1382.1	1359.0	1338.3	1317.6	1290.1	1274.0
27.5°	1402.8	1377.5	1359.0	1331.4	1317.6	1308.5	1283.2	1255.6	1237.2	1211.8	1193.5
30°	1319.9	1297.0	1276.3	1248.7	1234.9	1225.6	1202.7	1177.3	1159.0	1133.7	1115.3
32.5°	1232.5	1207.3	1182.0	1163.6	1147.5	1138.3	1113.0	1096.9	1073.9	1053.2	1032.5
35°	1138.3	1113.0	1094.6	1069.3	1060.1	1051.0	1030.3	1009.5	988.8	970.5	954.3
37.5°	1037.2	1018.7	998.0	979.6	972.7	963.6	938.2	919.8	903.8	885.3	871.5
40°	938.2	922.2	908.3	890.0	878.4	871.5	853.1	837.1	818.6	807.2	793.3
42.5°	848.6	830.2	816.4	802.6	791.0	784.1	768.1	756.6	742.8	731.2	715.2
45°	754.3	745.0	729.0	717.4	710.5	701.4	689.9	676.1	664.5	655.4	643.8
47.5°	671.4	662.3	650.7	636.9	632.4	625.5	614.0	604.8	595.6	586.4	574.9
50°	595.6	584.0	574.9	565.7	561.1	554.2	542.7	538.1	531.2	522.0	515.1
52.5°	526.6	517.5	508.2	496.8	494.4	489.9	482.9	473.7	466.8	462.2	457.6
55°	464.5	455.3	448.4	439.2	437.0	432.3	423.2	418.5	413.9	409.4	404.7
57.5°	409.4	400.1	390.9	386.3	381.8	377.2	374.8	367.9	363.4	361.0	356.5
60°	358.7	349.6	342.7	335.8	333.4	331.1	326.5	322.0	317.3	312.7	310.4
62.5°	310.4	301.3	296.7	292.0	287.5	287.5	282.9	278.2	273.7	271.3	266.7
65°	266.7	262.2	255.3	248.4	246.0	246.0	239.1	236.8	234.6	230.0	225.3
67.5°	225.3	220.8	213.9	211.5	209.3	207.0	204.6	200.1	195.5	193.2	188.6
70°	188.6	183.9	179.4	177.0	174.8	172.5	167.9	165.6	161.0	158.6	156.4
72.5°	151.7	149.5	144.8	142.6	140.3	137.9	135.7	133.4	128.8	126.5	124.1
75°	121.9	119.6	115.0	112.7	110.3	110.3	108.1	103.4	101.2	101.2	98.9
77.5°	92.0	89.7	87.4	85.1	82.8	82.8	80.5	78.2	75.9	75.9	73.6
80°	66.7	64.4	62.1	62.1	62.1	59.8	57.5	57.5	55.2	55.2	52.9
82.5°	43.6	43.6	41.4	41.4	41.4	39.1	39.1	36.7	36.7	36.7	36.7
85°	25.3	25.3	25.3	22.9	22.9	22.9	22.9	22.9	22.9	20.7	22.9
87.5°	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	9.2	9.2	9.2
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°	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8
2.5°	1685.6	1683.3	1678.7	1678.7	1674.1	1674.1	1671.9	1669.5	1667.2	1664.8	1662.6
5°	1669.5	1660.3	1655.7	1653.4	1648.8	1646.5	1639.6	1635.0	1632.7	1628.1	1623.5
7.5°	1639.6	1630.4	1621.2	1618.9	1616.6	1607.4	1600.5	1593.6	1589.0	1584.5	1579.8
10°	1605.2	1595.9	1584.5	1579.8	1575.2	1563.8	1554.5	1547.6	1538.4	1529.2	1526.9
12.5°	1563.8	1549.9	1536.1	1531.6	1524.7	1513.1	1504.0	1492.4	1485.5	1474.0	1471.7
15°	1515.4	1499.3	1487.8	1476.4	1471.7	1460.2	1444.2	1434.9	1421.1	1416.6	1405.0
17.5°	1458.0	1441.8	1425.7	1421.1	1414.2	1398.1	1382.1	1370.6	1356.8	1349.9	1343.0
20°	1398.1	1377.5	1361.4	1356.8	1347.6	1333.7	1317.6	1306.1	1294.7	1280.9	1274.0
22.5°	1329.2	1306.1	1292.3	1280.9	1278.5	1262.5	1244.1	1234.9	1225.6	1214.2	1204.9
25°	1253.3	1232.5	1216.5	1207.3	1202.7	1188.9	1175.1	1163.6	1149.8	1142.9	1131.5
27.5°	1175.1	1161.3	1140.6	1131.5	1124.4	1113.0	1096.9	1090.0	1076.2	1067.0	1060.1
30°	1099.2	1078.5	1067.0	1055.5	1048.6	1037.2	1023.4	1016.4	1004.9	995.7	988.8
32.5°	1016.4	1002.6	986.5	981.9	972.7	961.2	952.0	940.5	931.3	922.2	919.8
35°	940.5	922.2	906.0	901.4	894.5	883.1	878.4	871.5	860.0	857.7	848.6
37.5°	857.7	848.6	830.2	823.3	821.0	811.7	802.6	797.9	791.0	784.1	781.9
40°	779.5	768.1	758.8	751.9	747.4	740.5	731.2	729.0	724.3	715.2	712.9
42.5°	706.0	694.5	685.2	683.0	676.1	669.2	664.5	657.6	655.4	653.1	648.5
45°	634.7	627.8	618.6	616.3	614.0	604.8	600.2	595.6	590.9	588.7	584.0
47.5°	570.2	563.3	556.5	554.2	549.6	547.3	540.4	538.1	531.2	528.9	526.6
50°	508.2	503.7	499.0	496.8	492.1	489.9	485.2	480.6	476.0	473.7	471.4
52.5°	453.0	448.4	443.9	441.5	439.2	434.6	430.1	425.4	423.2	420.8	418.5
55°	400.1	395.6	393.2	390.9	388.7	386.3	379.4	377.2	374.8	372.5	367.9
57.5°	351.8	347.2	342.7	342.7	340.3	338.0	333.4	328.9	328.9	324.2	319.6
60°	308.2	303.6	298.9	296.7	294.4	289.8	287.5	285.1	282.9	280.6	276.0
62.5°	262.2	259.8	255.3	255.3	250.6	248.4	246.0	243.7	241.5	236.8	234.6
65°	223.1	220.8	216.2	213.9	213.9	211.5	207.0	204.6	202.4	202.4	200.1
67.5°	186.3	183.9	179.4	177.0	177.0	174.8	172.5	172.5	170.1	167.9	170.1
70°	154.1	149.5	149.5	147.2	147.2	144.8	142.6	142.6	142.6	144.8	144.8
72.5°	121.9	119.6	117.2	117.2	117.2	117.2	115.0	115.0	117.2	119.6	119.6
75°	96.5	94.3	94.3	94.3	92.0	92.0	94.3	94.3	96.5	96.5	96.5
77.5°	71.3	71.3	71.3	71.3	71.3	71.3	73.6	73.6	75.9	75.9	75.9
80°	52.9	52.9	52.9	52.9	52.9	55.2	55.2	55.2	55.2	55.2	57.5
82.5°	36.7	36.7	36.7	36.7	36.7	36.7	36.7	39.1	39.1	39.1	39.1
85°	20.7	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9
87.5°	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
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: P584284

CATALOG NUMBER: HC830D010-HM82555835-81WWW

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8	1694.8
2.5°	1660.3	1660.3	1660.3	1662.6	1657.9	1657.9	1657.9	1657.9
5°	1621.2	1618.9	1616.6	1618.9	1614.3	1614.3	1612.0	1612.0
7.5°	1572.9	1570.7	1568.3	1568.3	1563.8	1563.8	1561.4	1559.1
10°	1520.0	1515.4	1517.8	1513.1	1510.9	1508.5	1506.2	1504.0
12.5°	1462.6	1458.0	1455.7	1451.1	1446.4	1444.2	1446.4	1441.8
15°	1400.4	1393.5	1391.2	1386.6	1382.1	1379.7	1379.7	1377.5
17.5°	1331.4	1326.8	1324.5	1319.9	1317.6	1313.0	1310.8	1308.5
20°	1267.1	1255.6	1257.8	1253.3	1250.9	1241.8	1241.8	1244.1
22.5°	1195.8	1188.9	1184.2	1179.7	1177.3	1172.8	1172.8	1170.5
25°	1124.4	1117.5	1115.3	1110.6	1108.4	1103.7	1101.5	1101.5
27.5°	1055.5	1046.3	1046.3	1041.7	1037.2	1034.8	1032.5	1030.3
30°	981.9	975.0	972.7	972.7	970.5	970.5	963.6	965.8
32.5°	912.9	908.3	906.0	901.4	901.4	899.1	899.1	892.2
35°	844.0	837.1	839.3	834.8	832.4	830.2	832.4	830.2
37.5°	777.2	772.6	772.6	768.1	768.1	765.7	763.5	768.1
40°	710.5	708.3	706.0	703.7	706.0	703.7	699.1	701.4
42.5°	643.8	643.8	641.6	641.6	639.3	639.3	639.3	639.3
45°	584.0	581.8	581.8	579.5	579.5	579.5	579.5	577.1
47.5°	524.3	522.0	522.0	522.0	519.7	519.7	517.5	519.7
50°	466.8	466.8	464.5	464.5	466.8	464.5	462.2	462.2
52.5°	413.9	413.9	411.6	411.6	409.4	407.0	409.4	409.4
55°	365.6	363.4	361.0	361.0	358.7	356.5	356.5	358.7
57.5°	319.6	317.3	315.1	315.1	310.4	308.2	308.2	308.2
60°	276.0	271.3	271.3	269.1	269.1	266.7	266.7	266.7
62.5°	234.6	232.2	232.2	232.2	232.2	230.0	230.0	230.0
65°	200.1	200.1	200.1	202.4	202.4	204.6	204.6	204.6
67.5°	172.5	174.8	174.8	174.8	177.0	177.0	177.0	174.8
70°	147.2	147.2	147.2	149.5	149.5	149.5	149.5	149.5
72.5°	121.9	121.9	121.9	121.9	121.9	121.9	121.9	121.9
75°	96.5	98.9	98.9	98.9	96.5	98.9	98.9	96.5
77.5°	75.9	75.9	75.9	75.9	75.9	75.9	75.9	75.9
80°	57.5	57.5	57.5	57.5	57.5	57.5	57.5	57.5
82.5°	39.1	39.1	39.1	39.1	39.1	39.1	39.1	39.1
85°	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9
87.5°	9.2	9.2	9.2	9.2	9.2	9.2	9.2	9.2
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)