

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: P584471

Luminaire Tested: **HC835D010-HM82555930-81WWW**

Issue Date: 10/21/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P584471  
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: HC835D010-HM82555930-81WWW  
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3486.6 lumens  
Efficiency: N/A  
Efficacy: 103.5 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

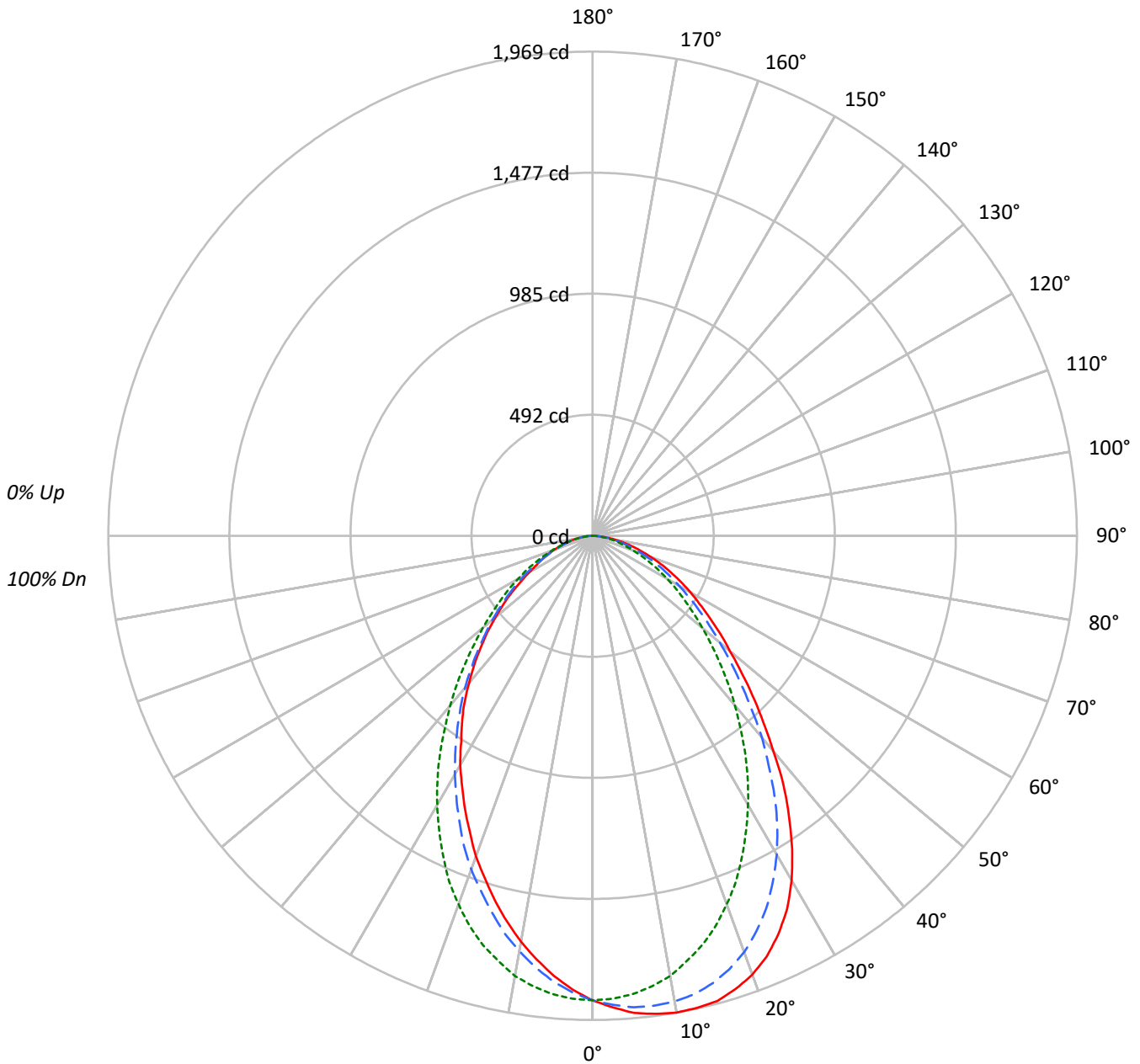
Input Watts (W): 33.7  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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

RF	20									20									20									20									
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°	58256	58256	58256
5°	60305	57924	55621
10°	61644	56906	52495
15°	62520	54992	49019
20°	62329	52321	45508
25°	60791	48930	41775
30°	57590	45000	38334
35°	52401	40723	34832
40°	46022	36216	31471
45°	40133	31856	28058
50°	34924	27915	24720
55°	31149	24531	21499
60°	28295	21499	18335
65°	25436	18708	16643
70°	22648	15940	15021
75°	19849	13427	12832
80°	16852	10939	11383
85°	12702	8173	9057



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	177.0	5.1
10°-20°	487.6	14.0
20°-30°	676.8	19.4
30°-40°	699.7	20.1
40°-50°	585.9	16.8
50°-60°	425.3	12.2
60°-70°	268.4	7.7
70°-80°	133.0	3.8
80°-90°	33.0	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°	1341.3	38.5
0°-40°	2041.0	58.5
0°-60°	3052.2	87.5
0°-90°	3486.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3486.6	100.0

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	1889	1889	1889	1889	1889	
5°	1948	1925	1871	1820	1797	186
15°	1958	1884	1723	1584	1536	551
25°	1787	1671	1438	1282	1228	819
35°	1392	1289	1082	959	925	867
45°	920	854	730	659	643	712
55°	579	528	456	418	400	523
65°	349	305	256	226	228	348
75°	167	138	113	108	108	179
85°	36	28	23	26	26	44
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°	1889.2	1889.2	1889.2	1889.2	1889.2	1889.2	1889.2	1889.2	1889.2	1889.2	1889.2
2.5°	1919.9	1919.9	1922.6	1919.9	1919.9	1919.9	1917.4	1917.4	1914.9	1914.9	1909.7
5°	1948.2	1943.0	1948.2	1943.0	1943.0	1943.0	1940.5	1935.4	1932.7	1927.7	1925.1
7.5°	1961.0	1958.4	1958.4	1955.9	1955.9	1953.3	1950.7	1948.2	1937.9	1935.4	1927.7
10°	1968.7	1966.0	1966.0	1963.5	1958.4	1958.4	1953.3	1950.7	1937.9	1932.7	1922.6
12.5°	1966.0	1966.0	1966.0	1963.5	1955.9	1953.3	1948.2	1940.5	1930.2	1919.9	1909.7
15°	1958.4	1958.4	1953.3	1950.7	1943.0	1937.9	1935.4	1922.6	1912.2	1899.4	1884.1
17.5°	1932.7	1932.7	1930.2	1925.1	1917.4	1912.2	1907.1	1894.3	1884.1	1863.6	1848.2
20°	1899.4	1896.9	1894.3	1886.6	1878.9	1876.4	1868.6	1850.8	1838.0	1822.5	1802.0
22.5°	1850.8	1848.2	1845.6	1840.5	1827.7	1822.5	1817.4	1804.5	1781.5	1766.2	1740.6
25°	1786.7	1786.7	1781.5	1773.9	1761.1	1755.9	1748.2	1735.4	1714.9	1691.8	1671.3
27.5°	1712.3	1709.8	1702.1	1697.0	1686.7	1679.0	1666.2	1650.8	1630.2	1612.4	1586.8
30°	1617.4	1617.4	1612.4	1604.7	1591.9	1586.8	1576.4	1558.5	1538.0	1515.0	1497.0
32.5°	1509.8	1509.8	1502.2	1497.0	1489.4	1476.5	1473.9	1453.4	1435.4	1417.6	1397.0
35°	1392.0	1394.5	1389.3	1379.1	1366.3	1366.3	1361.2	1343.2	1322.7	1304.7	1289.4
37.5°	1274.0	1266.3	1263.8	1258.6	1251.0	1240.6	1235.5	1227.8	1209.9	1197.0	1174.0
40°	1143.3	1145.8	1140.7	1135.6	1132.9	1125.3	1122.8	1109.9	1097.1	1081.8	1071.5
42.5°	1025.4	1025.4	1025.4	1020.2	1015.1	1007.4	1004.9	997.1	981.8	971.5	956.1
45°	920.3	912.5	912.5	910.0	907.5	902.3	894.7	889.5	879.2	871.5	853.6
47.5°	817.8	820.3	817.8	815.1	807.5	804.9	802.3	792.1	781.8	774.1	761.3
50°	728.0	733.2	728.0	728.0	722.9	720.4	715.2	707.5	699.8	686.9	674.1
52.5°	653.6	653.6	651.1	648.5	640.8	635.7	633.1	630.6	617.8	607.5	597.2
55°	579.4	581.9	581.9	574.2	571.7	566.5	563.9	556.2	551.1	535.7	528.1
57.5°	515.3	512.6	515.3	510.1	505.0	499.8	497.3	492.1	484.5	474.2	464.0
60°	458.8	453.7	453.7	451.2	446.0	443.5	438.3	430.7	423.0	412.7	405.0
62.5°	402.4	399.9	397.4	394.7	389.6	387.1	384.6	376.8	369.1	361.4	353.8
65°	348.6	348.6	346.1	341.0	338.3	335.8	333.3	328.1	317.8	312.7	305.0
67.5°	299.9	297.3	297.3	292.2	287.0	284.5	284.5	279.4	271.7	264.0	258.9
70°	251.2	253.7	251.2	248.7	243.6	243.6	238.4	235.9	225.6	223.1	215.3
72.5°	207.6	207.6	205.1	205.1	199.9	197.4	197.4	192.3	187.1	182.0	176.8
75°	166.6	166.6	166.6	164.0	161.5	156.3	156.3	153.8	148.7	143.5	138.4
77.5°	130.7	128.2	128.2	125.6	123.0	120.5	120.5	117.9	112.7	110.2	105.1
80°	94.9	92.2	92.2	92.2	87.1	89.7	87.1	84.6	82.1	79.4	76.9
82.5°	61.6	64.1	64.1	61.6	58.9	58.9	58.9	56.4	56.4	53.8	51.3
85°	35.9	35.9	35.9	35.9	33.3	33.3	33.3	30.8	30.8	30.8	28.2
87.5°	15.3	15.3	15.3	15.3	15.3	15.3	12.8	12.8	12.8	12.8	12.8
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°	1889.2	1889.2	1889.2	1889.2	1889.2	1889.2	1889.2	1889.2	1889.2	1889.2	1889.2
2.5°	1909.7	1904.6	1902.1	1899.4	1899.4	1896.9	1894.3	1889.2	1889.2	1884.1	1881.5
5°	1919.9	1912.2	1907.1	1902.1	1899.4	1894.3	1889.2	1881.5	1878.9	1871.3	1863.6
7.5°	1922.6	1909.7	1904.6	1894.3	1889.2	1884.1	1873.8	1866.1	1855.8	1848.2	1838.0
10°	1912.2	1902.1	1889.2	1876.4	1873.8	1866.1	1850.8	1840.5	1827.7	1817.4	1802.0
12.5°	1896.9	1881.5	1868.6	1853.3	1845.6	1838.0	1822.5	1807.2	1789.2	1771.2	1755.9
15°	1871.3	1853.3	1835.3	1817.4	1807.2	1799.5	1781.5	1763.6	1745.6	1722.6	1707.2
17.5°	1832.8	1812.3	1794.4	1771.2	1761.1	1753.4	1730.3	1709.8	1686.7	1663.7	1648.2
20°	1784.1	1758.4	1737.9	1712.3	1704.6	1691.8	1668.7	1645.7	1620.1	1594.4	1576.4
22.5°	1720.0	1694.3	1671.3	1645.7	1632.9	1620.1	1596.9	1568.8	1543.1	1522.7	1504.7
25°	1645.7	1622.6	1594.4	1571.3	1556.0	1540.6	1515.0	1491.9	1468.7	1438.1	1420.1
27.5°	1563.6	1535.5	1515.0	1484.2	1468.7	1458.6	1430.4	1399.6	1379.1	1350.9	1330.4
30°	1471.4	1445.7	1422.6	1392.0	1376.5	1366.3	1340.7	1312.4	1291.9	1263.8	1243.3
32.5°	1374.0	1345.7	1317.6	1297.1	1279.1	1268.9	1240.6	1222.7	1197.0	1174.0	1150.9
35°	1268.9	1240.6	1220.2	1192.0	1181.7	1171.4	1148.4	1125.3	1102.3	1081.8	1063.8
37.5°	1156.1	1135.6	1112.5	1092.0	1084.3	1074.0	1045.9	1025.4	1007.4	986.9	971.5
40°	1045.9	1027.9	1012.5	992.1	979.2	971.5	951.0	933.1	912.5	899.7	884.4
42.5°	945.8	925.3	910.0	894.7	881.8	874.1	856.2	843.4	827.9	815.1	797.1
45°	840.8	830.6	812.6	799.8	792.1	781.8	769.0	753.7	740.8	730.5	717.7
47.5°	748.5	738.2	725.4	710.1	704.9	697.2	684.4	674.1	663.9	653.6	640.8
50°	663.9	651.1	640.8	630.6	625.5	617.8	605.0	599.8	592.2	581.9	574.2
52.5°	587.0	576.7	566.5	553.7	551.1	546.0	538.3	528.1	520.4	515.3	510.1
55°	517.8	507.6	499.8	489.6	487.0	482.0	471.7	466.5	461.3	456.3	451.2
57.5°	456.3	446.0	435.7	430.7	425.5	420.4	417.9	410.2	405.0	402.4	397.4
60°	399.9	389.6	381.9	374.3	371.7	369.1	364.0	358.9	353.8	348.6	346.1
62.5°	346.1	335.8	330.6	325.5	320.5	320.5	315.3	310.2	305.0	302.5	297.3
65°	297.3	292.2	284.5	276.9	274.2	274.2	266.6	264.0	261.4	256.4	251.2
67.5°	251.2	246.1	238.4	235.9	233.3	230.7	228.1	223.1	217.9	215.3	210.2
70°	210.2	205.1	199.9	197.4	194.8	192.3	187.1	184.6	179.5	176.8	174.3
72.5°	169.2	166.6	161.5	159.0	156.3	153.8	151.2	148.7	143.5	141.0	138.4
75°	135.9	133.3	128.2	125.6	123.0	123.0	120.5	115.4	112.7	112.7	110.2
77.5°	102.5	99.9	97.4	94.9	92.2	92.2	89.7	87.1	84.6	84.6	82.1
80°	74.4	71.8	69.2	69.2	69.2	66.6	64.1	64.1	61.6	61.6	58.9
82.5°	48.8	48.8	46.1	46.1	46.1	43.6	43.6	41.0	41.0	41.0	41.0
85°	28.2	28.2	28.2	25.6	25.6	25.6	25.6	25.6	25.6	23.1	25.6
87.5°	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	10.3	10.3	10.3
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°	1889.2	1889.2	1889.2	1889.2	1889.2	1889.2	1889.2	1889.2	1889.2	1889.2	1889.2
2.5°	1878.9	1876.4	1871.3	1871.3	1866.1	1866.1	1863.6	1861.0	1858.5	1855.8	1853.3
5°	1861.0	1850.8	1845.6	1843.0	1838.0	1835.3	1827.7	1822.5	1820.0	1814.9	1809.7
7.5°	1827.7	1817.4	1807.2	1804.5	1802.0	1791.7	1784.1	1776.4	1771.2	1766.2	1761.1
10°	1789.2	1779.0	1766.2	1761.1	1755.9	1743.1	1732.8	1725.1	1714.9	1704.6	1702.1
12.5°	1743.1	1727.8	1712.3	1707.2	1699.5	1686.7	1676.5	1663.7	1655.9	1643.1	1640.5
15°	1689.3	1671.3	1658.5	1645.7	1640.5	1627.7	1609.8	1599.6	1584.1	1579.1	1566.3
17.5°	1625.2	1607.2	1589.3	1584.1	1576.4	1558.5	1540.6	1527.8	1512.4	1504.7	1497.0
20°	1558.5	1535.5	1517.5	1512.4	1502.2	1486.7	1468.7	1455.9	1443.2	1427.8	1420.1
22.5°	1481.6	1455.9	1440.6	1427.8	1425.3	1407.3	1386.8	1376.5	1366.3	1353.5	1343.2
25°	1397.0	1374.0	1356.0	1345.7	1340.7	1325.2	1309.9	1297.1	1281.6	1274.0	1261.1
27.5°	1309.9	1294.4	1271.4	1261.1	1253.5	1240.6	1222.7	1215.0	1199.7	1189.4	1181.7
30°	1225.3	1202.2	1189.4	1176.6	1168.9	1156.1	1140.7	1132.9	1120.1	1109.9	1102.3
32.5°	1132.9	1117.6	1099.6	1094.6	1084.3	1071.5	1061.2	1048.4	1038.2	1027.9	1025.4
35°	1048.4	1027.9	1009.9	1004.9	997.1	984.3	979.2	971.5	958.6	956.1	945.8
37.5°	956.1	945.8	925.3	917.7	915.2	904.8	894.7	889.5	881.8	874.1	871.5
40°	869.0	856.2	845.9	838.2	833.1	825.4	815.1	812.6	807.5	797.1	794.6
42.5°	787.0	774.1	763.8	761.3	753.7	746.0	740.8	733.2	730.5	728.0	722.9
45°	707.5	699.8	689.6	686.9	684.4	674.1	669.1	663.9	658.8	656.3	651.1
47.5°	635.7	628.0	620.3	617.8	612.7	610.0	602.4	599.8	592.2	589.5	587.0
50°	566.5	561.4	556.2	553.7	548.6	546.0	540.9	535.7	530.6	528.1	525.4
52.5°	505.0	499.8	494.8	492.1	489.6	484.5	479.3	474.2	471.7	469.1	466.5
55°	446.0	440.9	438.3	435.7	433.2	430.7	423.0	420.4	417.9	415.2	410.2
57.5°	392.2	387.1	381.9	381.9	379.4	376.8	371.7	366.6	366.6	361.4	356.3
60°	343.5	338.3	333.3	330.6	328.1	323.0	320.5	317.8	315.3	312.7	307.6
62.5°	292.2	289.7	284.5	284.5	279.4	276.9	274.2	271.7	269.2	264.0	261.4
65°	248.7	246.1	240.9	238.4	238.4	235.9	230.7	228.1	225.6	225.6	223.1
67.5°	207.6	205.1	199.9	197.4	197.4	194.8	192.3	192.3	189.6	187.1	189.6
70°	171.8	166.6	166.6	164.0	164.0	161.5	159.0	159.0	159.0	161.5	161.5
72.5°	135.9	133.3	130.7	130.7	130.7	130.7	128.2	128.2	130.7	133.3	133.3
75°	107.7	105.1	105.1	105.1	102.5	102.5	105.1	105.1	107.7	107.7	107.7
77.5°	79.4	79.4	79.4	79.4	79.4	79.4	82.1	82.1	84.6	84.6	84.6
80°	58.9	58.9	58.9	58.9	58.9	61.6	61.6	61.6	61.6	61.6	64.1
82.5°	41.0	41.0	41.0	41.0	41.0	41.0	41.0	43.6	43.6	43.6	43.6
85°	23.1	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6
87.5°	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3
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: P584471

CATALOG NUMBER: HC835D010-HM82555930-81WWW

**CANDELA DISTRIBUTION (continued):**

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1889.2	1889.2	1889.2	1889.2	1889.2	1889.2	1889.2	1889.2
2.5°	1850.8	1850.8	1850.8	1853.3	1848.2	1848.2	1848.2	1848.2
5°	1807.2	1804.5	1802.0	1804.5	1799.5	1799.5	1796.9	1796.9
7.5°	1753.4	1750.8	1748.2	1748.2	1743.1	1743.1	1740.6	1737.9
10°	1694.3	1689.3	1691.8	1686.7	1684.1	1681.5	1679.0	1676.5
12.5°	1630.2	1625.2	1622.6	1617.4	1612.4	1609.8	1612.4	1607.2
15°	1561.1	1553.4	1550.8	1545.7	1540.6	1538.0	1538.0	1535.5
17.5°	1484.2	1479.1	1476.5	1471.4	1468.7	1463.7	1461.1	1458.6
20°	1412.4	1399.6	1402.1	1397.0	1394.5	1384.2	1384.2	1386.8
22.5°	1332.9	1325.2	1320.1	1315.0	1312.4	1307.3	1307.3	1304.7
25°	1253.5	1245.8	1243.3	1238.1	1235.5	1230.5	1227.8	1227.8
27.5°	1176.6	1166.4	1166.4	1161.2	1156.1	1153.6	1150.9	1148.4
30°	1094.6	1086.8	1084.3	1084.3	1081.8	1081.8	1074.0	1076.6
32.5°	1017.7	1012.5	1009.9	1004.9	1004.9	1002.2	1002.2	994.6
35°	940.8	933.1	935.6	930.5	928.0	925.3	928.0	925.3
37.5°	866.4	861.2	861.2	856.2	856.2	853.6	851.1	856.2
40°	792.1	789.5	787.0	784.3	787.0	784.3	779.3	781.8
42.5°	717.7	717.7	715.2	715.2	712.6	712.6	712.6	712.6
45°	651.1	648.5	648.5	646.0	646.0	646.0	646.0	643.4
47.5°	584.5	581.9	581.9	581.9	579.4	579.4	576.7	579.4
50°	520.4	520.4	517.8	517.8	520.4	517.8	515.3	515.3
52.5°	461.3	461.3	458.8	458.8	456.3	453.7	456.3	456.3
55°	407.6	405.0	402.4	402.4	399.9	397.4	397.4	399.9
57.5°	356.3	353.8	351.1	351.1	346.1	343.5	343.5	343.5
60°	307.6	302.5	302.5	299.9	299.9	297.3	297.3	297.3
62.5°	261.4	258.9	258.9	258.9	258.9	256.4	256.4	256.4
65°	223.1	223.1	223.1	225.6	225.6	228.1	228.1	228.1
67.5°	192.3	194.8	194.8	194.8	197.4	197.4	197.4	194.8
70°	164.0	164.0	164.0	166.6	166.6	166.6	166.6	166.6
72.5°	135.9	135.9	135.9	135.9	135.9	135.9	135.9	135.9
75°	107.7	110.2	110.2	110.2	107.7	110.2	110.2	107.7
77.5°	84.6	84.6	84.6	84.6	84.6	84.6	84.6	84.6
80°	64.1	64.1	64.1	64.1	64.1	64.1	64.1	64.1
82.5°	43.6	43.6	43.6	43.6	43.6	43.6	43.6	43.6
85°	25.6	25.6	25.6	25.6	25.6	25.6	25.6	25.6
87.5°	10.3	10.3	10.3	10.3	10.3	10.3	10.3	10.3
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)