

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: P584480

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

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584480
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: HC835D010-HM82555935-81RWWC
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3500K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3670.4 lumens
Efficiency: N/A
Efficacy: 108.9 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

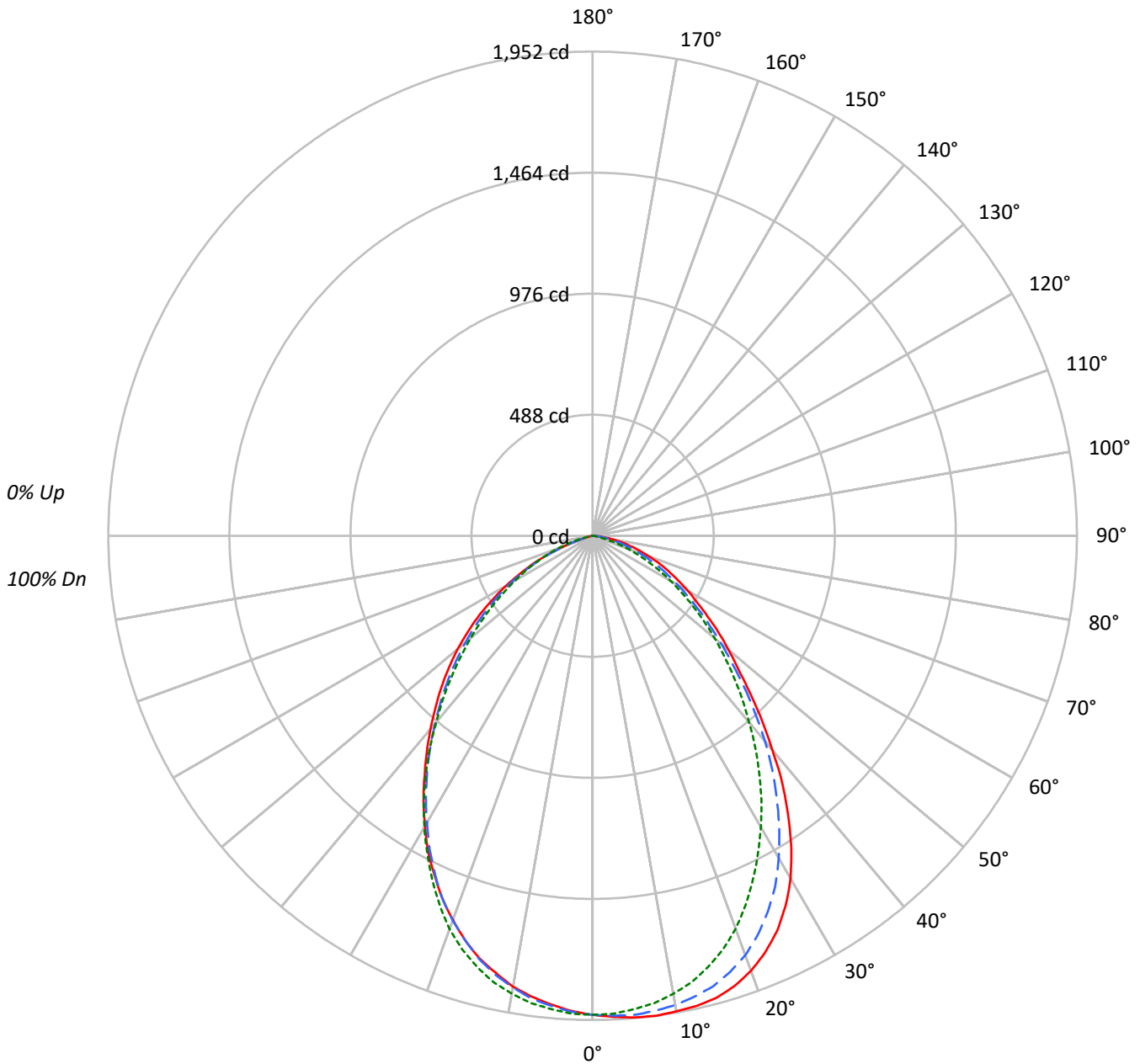
Input Watts (W): 33.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	59551	59551	59551
5°	60339	59299	58739
10°	60952	58694	57805
15°	61566	57451	56301
20°	61256	55333	54067
25°	59828	52023	51319
30°	56828	48293	48108
35°	51731	44066	44454
40°	45354	39437	40894
45°	39130	35084	37552
50°	34262	30799	34018
55°	30354	26478	29945
60°	27352	22264	24805
65°	24640	17876	19000
70°	21620	13019	10458
75°	18431	6755	2764
80°	14189	1829	462
85°	9128	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	182.2	5.0
10°-20°	512.2	14.0
20°-30°	727.0	19.8
30°-40°	765.3	20.9
40°-50°	651.0	17.7
50°-60°	470.5	12.8
60°-70°	267.6	7.3
70°-80°	84.3	2.3
80°-90°	10.2	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°	1421.4	38.7
0°-40°	2186.7	59.6
0°-60°	3308.2	90.1
0°-90°	3670.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3670.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1931	1931	1931	1931	1931	
5°	1949	1939	1916	1903	1898	186
15°	1928	1880	1800	1766	1764	543
25°	1758	1671	1529	1503	1508	805
35°	1374	1294	1171	1163	1181	855
45°	897	864	804	825	861	697
55°	565	523	492	521	557	509
65°	338	291	245	242	260	335
75°	155	119	57	26	23	166
85°	26	16	0	0	0	33
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°	1931.2	1931.2	1931.2	1931.2	1931.2	1931.2	1931.2	1931.2	1931.2	1931.2	1931.2
2.5°	1941.5	1944.1	1939.0	1939.0	1944.1	1939.0	1941.5	1941.5	1939.0	1939.0	1936.3
5°	1949.3	1946.6	1946.6	1946.6	1949.3	1944.1	1941.5	1944.1	1939.0	1939.0	1939.0
7.5°	1951.8	1951.8	1949.3	1946.6	1946.6	1946.6	1944.1	1941.5	1939.0	1933.8	1931.2
10°	1946.6	1946.6	1949.3	1944.1	1944.1	1939.0	1939.0	1933.8	1933.8	1928.5	1920.9
12.5°	1941.5	1939.0	1939.0	1933.8	1933.8	1928.5	1928.5	1920.9	1918.2	1910.6	1902.8
15°	1928.5	1926.0	1920.9	1918.2	1915.7	1913.1	1907.9	1905.4	1897.6	1887.3	1879.7
17.5°	1902.8	1900.3	1897.6	1892.5	1887.3	1884.8	1882.2	1874.5	1864.1	1856.4	1843.5
20°	1866.7	1864.1	1864.1	1856.4	1853.8	1846.1	1843.5	1833.2	1825.5	1809.9	1799.6
22.5°	1817.7	1820.4	1815.2	1809.9	1804.8	1797.1	1792.0	1781.7	1768.7	1753.3	1740.3
25°	1758.4	1761.1	1755.8	1750.6	1743.0	1737.8	1732.7	1717.2	1704.3	1686.2	1670.7
27.5°	1683.7	1683.7	1683.7	1678.5	1665.6	1663.1	1657.9	1642.5	1624.4	1608.9	1593.5
30°	1596.0	1593.5	1593.5	1585.7	1580.5	1570.2	1562.4	1549.6	1536.7	1518.6	1500.6
32.5°	1490.3	1492.8	1485.2	1480.0	1472.2	1472.2	1461.9	1451.6	1436.2	1418.1	1400.0
35°	1374.2	1376.9	1371.7	1369.1	1356.3	1353.6	1351.1	1338.2	1327.9	1314.9	1294.3
37.5°	1255.6	1253.1	1250.5	1250.5	1242.8	1237.7	1232.5	1224.7	1209.3	1199.0	1188.7
40°	1126.7	1126.7	1126.7	1124.2	1121.6	1116.4	1113.9	1108.6	1098.3	1088.0	1080.4
42.5°	1010.8	1010.8	1008.1	1005.6	1000.4	1003.0	997.8	992.7	982.4	974.6	969.4
45°	897.3	897.3	897.3	899.8	894.7	887.0	887.0	881.8	876.6	871.4	863.8
47.5°	796.7	804.5	799.3	796.7	799.3	789.0	789.0	783.9	778.7	773.5	763.2
50°	714.2	714.2	714.2	709.1	706.5	706.5	698.7	693.5	691.0	685.9	675.6
52.5°	639.4	634.2	634.2	631.7	629.1	623.9	623.9	618.8	608.5	603.3	595.6
55°	564.6	564.6	562.1	559.5	557.0	554.3	551.8	544.0	538.9	531.2	523.4
57.5°	497.6	502.8	500.2	495.0	489.9	489.9	484.7	479.6	471.9	464.1	456.3
60°	443.5	440.9	440.9	438.3	433.2	430.6	428.0	420.3	412.6	404.8	397.0
62.5°	386.7	386.7	386.7	381.6	376.4	373.9	371.3	366.1	355.8	348.0	342.9
65°	337.7	335.2	332.6	330.0	327.4	322.3	319.7	314.6	306.8	299.1	291.4
67.5°	288.7	286.2	286.2	283.6	275.9	273.3	273.3	265.6	257.8	250.1	242.4
70°	239.8	239.8	239.8	234.7	232.1	229.4	226.9	221.7	214.0	206.3	198.5
72.5°	198.5	196.0	196.0	193.4	185.7	183.1	180.5	175.3	167.6	162.4	157.3
75°	154.7	154.7	152.1	149.5	147.0	144.4	141.8	136.7	128.9	121.2	118.6
77.5°	118.6	116.0	116.0	113.5	108.3	105.7	105.7	100.5	92.8	87.7	82.5
80°	79.9	82.5	79.9	77.4	74.8	72.2	69.6	67.1	61.9	56.7	51.5
82.5°	49.0	51.5	49.0	49.0	46.4	43.8	43.8	38.7	36.1	33.5	30.9
85°	25.8	25.8	25.8	25.8	23.2	23.2	23.2	20.6	18.1	15.5	15.5
87.5°	7.8	10.3	7.8	7.8	7.8	7.8	7.8	7.8	5.2	5.2	5.2
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1931.2	1931.2	1931.2	1931.2	1931.2	1931.2	1931.2	1931.2	1931.2	1931.2	1931.2
2.5°	1939.0	1936.3	1933.8	1933.8	1933.8	1933.8	1933.8	1931.2	1928.5	1928.5	1928.5
5°	1933.8	1933.8	1933.8	1931.2	1928.5	1928.5	1923.4	1920.9	1918.2	1915.7	1913.1
7.5°	1928.5	1923.4	1920.9	1918.2	1915.7	1915.7	1910.6	1905.4	1905.4	1900.3	1895.1
10°	1913.1	1910.6	1905.4	1900.3	1897.6	1895.1	1890.0	1882.2	1879.7	1874.5	1869.2
12.5°	1895.1	1890.0	1884.8	1874.5	1871.9	1869.2	1858.9	1851.3	1846.1	1843.5	1830.7
15°	1871.9	1861.6	1853.8	1841.0	1838.3	1833.2	1825.5	1817.7	1807.4	1799.6	1794.5
17.5°	1830.7	1820.4	1807.4	1794.5	1789.3	1789.3	1776.5	1766.2	1753.3	1748.1	1737.8
20°	1781.7	1768.7	1758.4	1743.0	1735.2	1727.5	1719.7	1704.3	1694.0	1686.2	1673.4
22.5°	1724.9	1706.9	1694.0	1678.5	1665.6	1657.9	1645.0	1632.0	1619.2	1611.4	1601.1
25°	1652.8	1637.2	1616.6	1601.1	1593.5	1583.2	1567.6	1554.8	1541.8	1529.0	1523.9
27.5°	1572.7	1552.1	1534.2	1516.1	1508.3	1500.6	1482.5	1467.1	1456.8	1443.8	1438.7
30°	1485.2	1464.6	1443.8	1428.4	1420.7	1407.8	1397.5	1379.4	1366.6	1356.3	1343.3
32.5°	1384.5	1369.1	1351.1	1327.9	1322.7	1312.4	1297.0	1289.2	1273.7	1265.9	1255.6
35°	1276.2	1265.9	1248.0	1229.9	1222.1	1216.9	1204.1	1188.7	1178.4	1170.6	1165.4
37.5°	1173.2	1160.3	1142.2	1129.4	1124.2	1116.4	1101.0	1093.2	1082.9	1077.7	1067.4
40°	1062.3	1049.3	1036.5	1028.7	1021.1	1015.9	1005.6	997.8	987.5	979.7	977.2
42.5°	954.0	946.3	935.9	925.6	923.1	915.3	910.1	902.5	894.7	892.2	884.4
45°	856.0	848.3	838.0	827.7	825.1	819.9	817.3	809.6	804.5	804.5	804.5
47.5°	758.0	750.3	740.0	734.9	737.4	727.1	727.1	724.6	719.4	719.4	721.9
50°	670.4	660.1	657.5	652.3	647.2	642.0	644.6	636.9	636.9	642.0	639.4
52.5°	587.9	577.6	574.9	569.8	567.3	567.3	564.6	564.6	562.1	564.6	564.6
55°	513.1	505.3	500.2	495.0	492.5	492.5	492.5	489.9	487.3	492.5	495.0
57.5°	446.0	443.5	438.3	430.6	428.0	425.4	422.9	422.9	422.9	422.9	425.4
60°	386.7	381.6	376.4	368.7	368.7	366.1	363.6	361.0	361.0	361.0	361.0
62.5°	335.2	327.4	319.7	314.6	312.0	309.4	306.8	301.7	301.7	301.7	301.7
65°	283.6	275.9	270.7	265.6	260.4	260.4	255.3	252.7	247.5	245.0	239.8
67.5°	234.7	229.4	224.3	216.6	214.0	211.4	206.3	203.7	196.0	193.4	190.8
70°	190.8	183.1	177.9	172.8	170.1	165.0	159.8	154.7	149.5	144.4	139.2
72.5°	149.5	141.8	136.7	131.5	126.4	126.4	118.6	113.5	105.7	100.5	92.8
75°	110.8	103.1	98.0	90.2	87.7	85.1	77.4	72.2	64.5	56.7	51.5
77.5°	74.8	69.6	64.5	56.7	51.5	51.5	43.8	38.7	33.5	25.8	23.2
80°	46.4	41.2	36.1	30.9	30.9	25.8	23.2	18.1	12.9	10.3	7.8
82.5°	25.8	23.2	20.6	15.5	15.5	12.9	10.3	7.8	5.2	2.6	2.6
85°	12.9	10.3	7.8	7.8	5.2	5.2	5.2	2.6	2.6	0.0	0.0
87.5°	5.2	2.6	2.6	2.6	2.6	2.6	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°	1931.2	1931.2	1931.2	1931.2	1931.2	1931.2	1931.2	1931.2	1931.2	1931.2	1931.2
2.5°	1926.0	1926.0	1923.4	1923.4	1923.4	1920.9	1923.4	1920.9	1920.9	1920.9	1923.4
5°	1915.7	1910.6	1910.6	1907.9	1907.9	1905.4	1907.9	1905.4	1902.8	1900.3	1902.8
7.5°	1895.1	1890.0	1887.3	1884.8	1884.8	1884.8	1882.2	1879.7	1882.2	1874.5	1879.7
10°	1866.7	1864.1	1858.9	1856.4	1853.8	1856.4	1853.8	1848.6	1848.6	1848.6	1846.1
12.5°	1830.7	1825.5	1822.9	1820.4	1815.2	1815.2	1817.7	1812.6	1812.6	1807.4	1807.4
15°	1786.8	1781.7	1776.5	1776.5	1771.4	1771.4	1768.7	1768.7	1766.2	1763.6	1763.6
17.5°	1732.7	1724.9	1719.7	1722.4	1719.7	1717.2	1717.2	1712.1	1709.4	1712.1	1712.1
20°	1668.2	1663.1	1657.9	1660.4	1655.3	1652.8	1655.3	1647.6	1650.1	1650.1	1650.1
22.5°	1596.0	1593.5	1585.7	1585.7	1580.5	1577.9	1580.5	1580.5	1583.2	1580.5	1580.5
25°	1516.1	1510.9	1505.8	1505.8	1503.1	1500.6	1503.1	1505.8	1503.1	1505.8	1505.8
27.5°	1431.0	1423.2	1423.2	1418.1	1418.1	1420.7	1418.1	1420.7	1423.2	1423.2	1428.4
30°	1338.2	1335.5	1333.0	1330.4	1330.4	1333.0	1333.0	1333.0	1335.5	1340.7	1340.7
32.5°	1250.5	1245.3	1240.2	1240.2	1245.3	1242.8	1245.3	1245.3	1250.5	1250.5	1255.6
35°	1155.1	1155.1	1150.0	1152.5	1152.5	1152.5	1152.5	1157.6	1162.8	1165.4	1170.6
37.5°	1067.4	1059.8	1062.3	1062.3	1064.9	1062.3	1070.1	1070.1	1075.2	1075.2	1080.4
40°	972.1	972.1	974.6	972.1	974.6	974.6	979.7	984.9	987.5	992.7	995.3
42.5°	881.8	887.0	881.8	884.4	887.0	889.5	892.2	894.7	905.0	910.1	917.9
45°	799.3	801.8	804.5	807.0	804.5	809.6	812.1	817.3	825.1	827.7	830.2
47.5°	719.4	721.9	724.6	727.1	727.1	732.2	734.9	740.0	745.2	747.7	750.3
50°	642.0	647.2	649.8	649.8	652.3	657.5	662.6	662.6	667.8	675.6	678.1
52.5°	572.4	572.4	577.6	580.1	582.7	582.7	590.5	593.0	595.6	600.8	605.9
55°	495.0	502.8	505.3	505.3	510.5	515.6	518.3	520.8	520.8	531.2	531.2
57.5°	428.0	430.6	435.7	435.7	435.7	443.5	443.5	448.7	451.2	453.8	459.0
60°	361.0	366.1	366.1	368.7	366.1	371.3	373.9	379.0	381.6	384.2	386.7
62.5°	299.1	299.1	301.7	301.7	301.7	301.7	306.8	306.8	312.0	314.6	317.1
65°	239.8	239.8	239.8	239.8	239.8	239.8	239.8	239.8	242.4	242.4	247.5
67.5°	185.7	183.1	177.9	180.5	177.9	177.9	175.3	175.3	177.9	177.9	183.1
70°	134.1	131.5	126.4	126.4	123.8	121.2	118.6	116.0	113.5	113.5	113.5
72.5°	87.7	82.5	74.8	72.2	72.2	67.1	61.9	59.3	59.3	59.3	59.3
75°	43.8	38.7	33.5	30.9	30.9	25.8	28.4	25.8	25.8	25.8	25.8
77.5°	18.1	12.9	10.3	10.3	10.3	7.8	7.8	7.8	7.8	7.8	7.8
80°	5.2	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
82.5°	2.6	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: P584480

CATALOG NUMBER: HC835D010-HM82555935-81RWWC

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1931.2	1931.2	1931.2	1931.2	1931.2	1931.2	1931.2	1931.2
2.5°	1920.9	1920.9	1915.7	1918.2	1918.2	1918.2	1918.2	1918.2
5°	1897.6	1900.3	1897.6	1900.3	1900.3	1897.6	1897.6	1897.6
7.5°	1874.5	1877.0	1874.5	1877.0	1877.0	1877.0	1874.5	1874.5
10°	1846.1	1846.1	1846.1	1846.1	1846.1	1843.5	1846.1	1846.1
12.5°	1807.4	1807.4	1807.4	1809.9	1809.9	1807.4	1807.4	1804.8
15°	1766.2	1761.1	1763.6	1766.2	1763.6	1763.6	1763.6	1763.6
17.5°	1709.4	1712.1	1709.4	1709.4	1709.4	1709.4	1712.1	1709.4
20°	1650.1	1650.1	1652.8	1650.1	1650.1	1650.1	1650.1	1647.6
22.5°	1583.2	1580.5	1580.5	1583.2	1583.2	1580.5	1583.2	1583.2
25°	1508.3	1510.9	1508.3	1508.3	1510.9	1510.9	1510.9	1508.3
27.5°	1428.4	1431.0	1433.5	1431.0	1431.0	1431.0	1433.5	1436.2
30°	1345.8	1351.1	1345.8	1345.8	1351.1	1348.5	1351.1	1351.1
32.5°	1258.3	1265.9	1260.8	1265.9	1265.9	1268.6	1265.9	1268.6
35°	1170.6	1178.4	1178.4	1178.4	1180.9	1183.5	1183.5	1180.9
37.5°	1088.0	1090.7	1090.7	1095.8	1098.3	1101.0	1101.0	1098.3
40°	1003.0	1008.1	1010.8	1010.8	1010.8	1015.9	1021.1	1015.9
42.5°	920.4	923.1	925.6	925.6	930.7	933.4	935.9	935.9
45°	840.5	845.7	848.3	850.8	853.5	858.6	856.0	861.1
47.5°	758.0	765.8	768.4	770.9	776.1	778.7	781.2	783.9
50°	683.2	688.4	688.4	693.5	701.3	701.3	706.5	709.1
52.5°	608.5	611.1	613.6	616.3	621.4	626.6	626.6	631.7
55°	536.3	538.9	538.9	541.5	544.0	554.3	557.0	557.0
57.5°	461.5	461.5	466.6	469.3	471.9	477.0	477.0	477.0
60°	389.3	391.9	391.9	394.5	397.0	402.2	404.8	402.2
62.5°	317.1	319.7	319.7	322.3	327.4	330.0	327.4	327.4
65°	250.1	252.7	252.7	255.3	260.4	260.4	257.8	260.4
67.5°	183.1	183.1	183.1	183.1	183.1	183.1	183.1	183.1
70°	116.0	113.5	110.8	113.5	113.5	113.5	110.8	116.0
72.5°	56.7	59.3	59.3	59.3	59.3	59.3	59.3	56.7
75°	25.8	25.8	23.2	23.2	23.2	25.8	25.8	23.2
77.5°	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
80°	2.6	2.6	2.6	2.6	2.6	2.6	2.6	2.6
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



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— 0°-180° - - 45°-225° - - - - 90°-270°













(END OF REPORT)