

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: P584378

Luminaire Tested: **HC835D010-HM82555827-81RWWC**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584378
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-HM82555827-81RWWC
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3802.2 lumens
Efficiency: N/A
Efficacy: 112.8 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

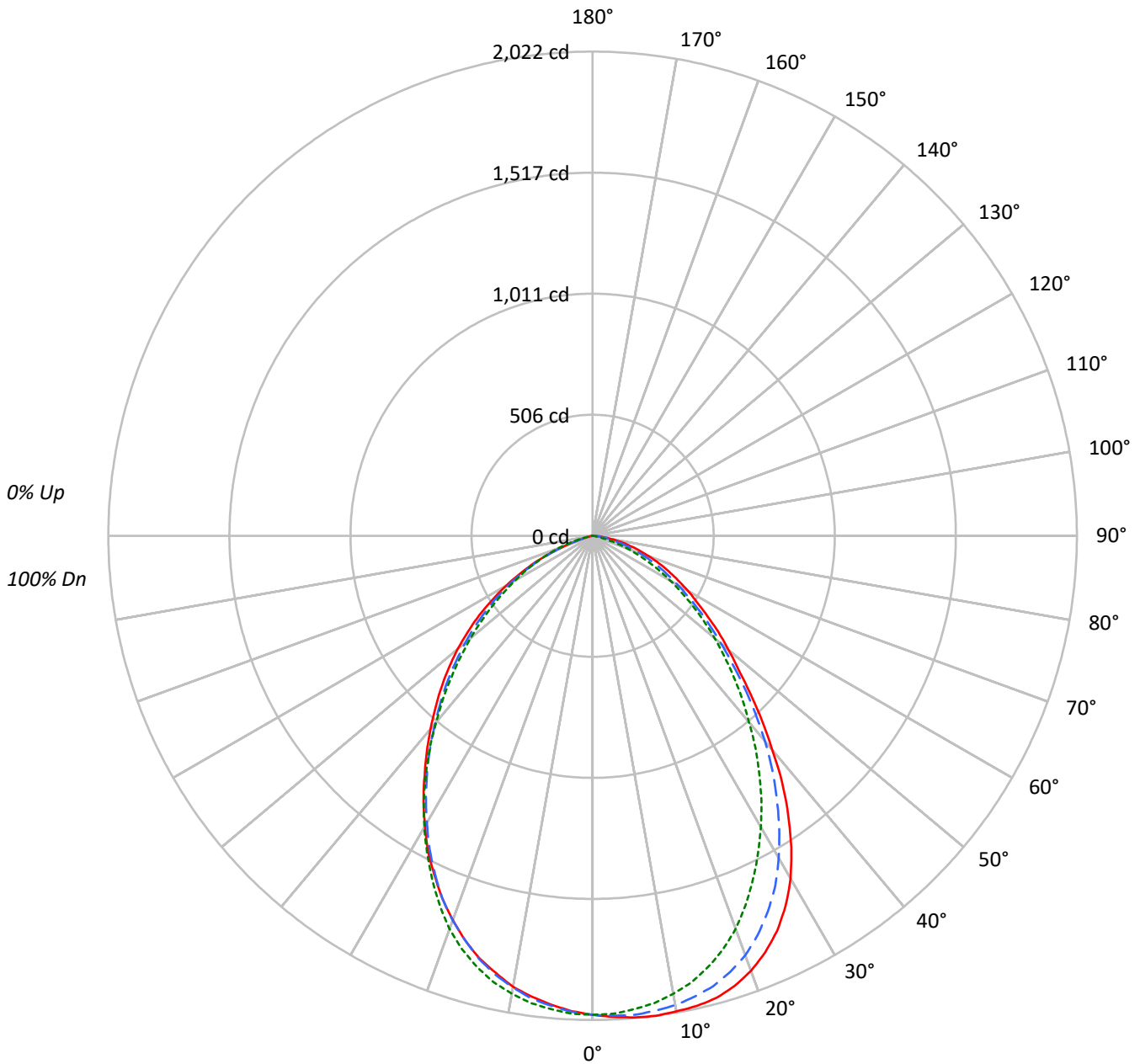
Input Watts (W): 33.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	61688	61688	61688
5°	62503	61432	60850
10°	63144	60802	59884
15°	63781	59516	58325
20°	63458	57322	56009
25°	61982	53891	53166
30°	58872	50024	49835
35°	53590	45647	46050
40°	46984	40854	42359
45°	40535	36339	38908
50°	35495	31907	35236
55°	31450	27424	31020
60°	28332	23059	25699
65°	25530	18511	19686
70°	22387	13488	10837
75°	19099	7006	2871
80°	14704	1900	462
85°	9447	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	188.8	5.0
10°-20°	530.6	14.0
20°-30°	753.1	19.8
30°-40°	792.8	20.9
40°-50°	674.4	17.7
50°-60°	487.4	12.8
60°-70°	277.2	7.3
70°-80°	87.3	2.3
80°-90°	10.6	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°	1472.5	38.7
0°-40°	2265.3	59.6
0°-60°	3427.1	90.1
0°-90°	3802.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3802.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2000	2000	2000	2000	2000	
5°	2019	2009	1985	1971	1966	193
15°	1998	1947	1864	1830	1827	563
25°	1822	1731	1584	1557	1563	834
35°	1424	1341	1213	1205	1223	886
45°	930	895	833	855	892	723
55°	585	542	510	540	577	527
65°	350	302	254	251	270	347
75°	160	123	59	27	24	172
85°	27	16	0	0	0	35
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°	2000.5	2000.5	2000.5	2000.5	2000.5	2000.5	2000.5	2000.5	2000.5	2000.5	2000.5
2.5°	2011.2	2014.0	2008.6	2008.6	2014.0	2008.6	2011.2	2011.2	2008.6	2008.6	2005.9
5°	2019.2	2016.6	2016.6	2016.6	2019.2	2014.0	2011.2	2014.0	2008.6	2008.6	2008.6
7.5°	2022.0	2022.0	2019.2	2016.6	2016.6	2016.6	2014.0	2011.2	2008.6	2003.3	2000.5
10°	2016.6	2016.6	2019.2	2014.0	2014.0	2008.6	2008.6	2003.3	2003.3	1997.9	1989.9
12.5°	2011.2	2008.6	2008.6	2003.3	2003.3	1997.9	1997.9	1989.9	1987.2	1979.2	1971.2
15°	1997.9	1995.3	1989.9	1987.2	1984.6	1981.9	1976.6	1973.8	1965.8	1955.1	1947.1
17.5°	1971.2	1968.6	1965.8	1960.5	1955.1	1952.5	1949.9	1941.8	1931.2	1923.1	1909.7
20°	1933.8	1931.2	1931.2	1923.1	1920.4	1912.5	1909.7	1899.1	1891.0	1875.0	1864.3
22.5°	1883.0	1885.8	1880.4	1875.0	1869.7	1861.7	1856.3	1845.6	1832.3	1816.3	1802.9
25°	1821.7	1824.3	1818.9	1813.7	1805.6	1800.2	1795.0	1778.9	1765.5	1746.8	1730.8
27.5°	1744.2	1744.2	1744.2	1738.8	1725.5	1722.8	1717.5	1701.4	1682.7	1666.7	1650.7
30°	1653.4	1650.7	1650.7	1642.7	1637.3	1626.6	1618.6	1605.3	1591.9	1573.2	1554.5
32.5°	1543.9	1546.5	1538.5	1533.2	1525.2	1525.2	1514.5	1503.7	1487.8	1469.1	1450.3
35°	1423.6	1426.3	1420.9	1418.3	1404.9	1402.3	1399.6	1386.2	1375.5	1362.2	1340.8
37.5°	1300.8	1298.2	1295.4	1295.4	1287.4	1282.1	1276.7	1268.7	1252.7	1242.0	1231.3
40°	1167.2	1167.2	1167.2	1164.6	1161.9	1156.5	1153.9	1148.5	1137.9	1127.2	1119.2
42.5°	1047.1	1047.1	1044.4	1041.7	1036.4	1039.0	1033.6	1028.4	1017.7	1009.7	1004.3
45°	929.5	929.5	929.5	932.2	926.9	918.9	918.9	913.5	908.1	902.8	894.8
47.5°	825.3	833.3	828.1	825.3	828.1	817.3	817.3	812.0	806.6	801.3	790.6
50°	739.9	739.9	739.9	734.5	731.9	731.9	723.8	718.4	715.8	710.5	699.8
52.5°	662.4	657.1	657.1	654.3	651.7	646.4	646.4	641.0	630.4	625.0	617.0
55°	585.0	585.0	582.2	579.6	577.0	574.3	571.6	563.5	558.3	550.2	542.2
57.5°	515.5	520.9	518.1	512.9	507.5	507.5	502.2	496.8	488.8	480.8	472.7
60°	459.4	456.8	456.8	454.0	448.8	446.0	443.4	435.4	427.3	419.3	411.4
62.5°	400.6	400.6	400.6	395.3	389.9	387.3	384.7	379.3	368.6	360.6	355.2
65°	349.9	347.2	344.5	341.9	339.3	333.9	331.2	325.9	317.8	309.8	301.8
67.5°	299.1	296.5	296.5	293.9	285.8	283.1	283.1	275.1	267.2	259.1	251.1
70°	248.3	248.3	248.3	243.1	240.4	237.7	235.0	229.7	221.7	213.7	205.7
72.5°	205.7	202.9	202.9	200.3	192.3	189.6	187.0	181.6	173.6	168.3	162.9
75°	160.3	160.3	157.5	154.9	152.3	149.6	146.9	141.6	133.6	125.6	122.9
77.5°	122.9	120.2	120.2	117.5	112.1	109.5	109.5	104.2	96.2	90.8	85.4
80°	82.8	85.4	82.8	80.1	77.5	74.8	72.1	69.5	64.1	58.8	53.4
82.5°	50.8	53.4	50.8	50.8	48.0	45.4	45.4	40.0	37.4	34.7	32.1
85°	26.7	26.7	26.7	26.7	24.1	24.1	24.1	21.3	18.7	16.1	16.1
87.5°	8.0	10.7	8.0	8.0	8.0	8.0	8.0	8.0	5.4	5.4	5.4
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°	2000.5	2000.5	2000.5	2000.5	2000.5	2000.5	2000.5	2000.5	2000.5	2000.5	2000.5
2.5°	2008.6	2005.9	2003.3	2003.3	2003.3	2003.3	2003.3	2000.5	1997.9	1997.9	1997.9
5°	2003.3	2003.3	2003.3	2000.5	1997.9	1997.9	1992.5	1989.9	1987.2	1984.6	1981.9
7.5°	1997.9	1992.5	1989.9	1987.2	1984.6	1984.6	1979.2	1973.8	1973.8	1968.6	1963.2
10°	1981.9	1979.2	1973.8	1968.6	1965.8	1963.2	1957.9	1949.9	1947.1	1941.8	1936.4
12.5°	1963.2	1957.9	1952.5	1941.8	1939.2	1936.4	1925.8	1917.8	1912.5	1909.7	1896.4
15°	1939.2	1928.4	1920.4	1907.1	1904.5	1899.1	1891.0	1883.0	1872.4	1864.3	1859.1
17.5°	1896.4	1885.8	1872.4	1859.1	1853.7	1853.7	1840.4	1829.6	1816.3	1810.9	1800.2
20°	1845.6	1832.3	1821.7	1805.6	1797.6	1789.6	1781.5	1765.5	1754.8	1746.8	1733.5
22.5°	1786.9	1768.2	1754.8	1738.8	1725.5	1717.5	1704.2	1690.7	1677.4	1669.4	1658.6
25°	1712.1	1696.1	1674.7	1658.6	1650.7	1639.9	1624.0	1610.6	1597.3	1583.9	1578.6
27.5°	1629.3	1608.0	1589.3	1570.6	1562.6	1554.5	1535.8	1519.8	1509.1	1495.7	1490.4
30°	1538.5	1517.1	1495.7	1479.8	1471.7	1458.3	1447.7	1429.0	1415.7	1404.9	1391.6
32.5°	1434.4	1418.3	1399.6	1375.5	1370.3	1359.5	1343.6	1335.5	1319.5	1311.5	1300.8
35°	1322.1	1311.5	1292.8	1274.1	1266.0	1260.7	1247.4	1231.3	1220.6	1212.6	1207.3
37.5°	1215.3	1202.0	1183.3	1169.8	1164.6	1156.5	1140.5	1132.5	1121.8	1116.5	1105.8
40°	1100.5	1087.1	1073.8	1065.7	1057.7	1052.3	1041.7	1033.6	1023.0	1014.9	1012.3
42.5°	988.2	980.2	969.5	958.9	956.2	948.2	942.8	934.8	926.9	924.1	916.1
45°	886.8	878.7	868.1	857.4	854.8	849.4	846.7	838.7	833.3	833.3	833.3
47.5°	785.3	777.3	766.6	761.2	764.0	753.2	753.2	750.5	745.2	745.2	747.9
50°	694.5	683.8	681.1	675.8	670.4	665.1	667.8	659.7	659.7	665.1	662.4
52.5°	608.9	598.3	595.6	590.3	587.6	587.6	585.0	585.0	582.2	585.0	585.0
55°	531.6	523.5	518.1	512.9	510.1	510.1	510.1	507.5	504.8	510.1	512.9
57.5°	462.1	459.4	454.0	446.0	443.4	440.7	438.0	438.0	438.0	438.0	440.7
60°	400.6	395.3	389.9	381.9	381.9	379.3	376.7	373.9	373.9	373.9	373.9
62.5°	347.2	339.3	331.2	325.9	323.2	320.5	317.8	312.6	312.6	312.6	312.6
65°	293.9	285.8	280.5	275.1	269.8	269.8	264.4	261.8	256.4	253.7	248.3
67.5°	243.1	237.7	232.4	224.4	221.7	219.0	213.7	211.0	202.9	200.3	197.7
70°	197.7	189.6	184.3	179.0	176.3	171.0	165.6	160.3	154.9	149.6	144.2
72.5°	154.9	146.9	141.6	136.2	130.8	130.8	122.9	117.5	109.5	104.2	96.2
75°	114.9	106.9	101.5	93.4	90.8	88.2	80.1	74.8	66.7	58.8	53.4
77.5°	77.5	72.1	66.7	58.8	53.4	53.4	45.4	40.0	34.7	26.7	24.1
80°	48.0	42.8	37.4	32.1	32.1	26.7	24.1	18.7	13.3	10.7	8.0
82.5°	26.7	24.1	21.3	16.1	16.1	13.3	10.7	8.0	5.4	2.6	2.6
85°	13.3	10.7	8.0	8.0	5.4	5.4	5.4	2.6	2.6	0.0	0.0
87.5°	5.4	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°	2000.5	2000.5	2000.5	2000.5	2000.5	2000.5	2000.5	2000.5	2000.5	2000.5	2000.5
2.5°	1995.3	1995.3	1992.5	1992.5	1992.5	1989.9	1992.5	1989.9	1989.9	1989.9	1992.5
5°	1984.6	1979.2	1979.2	1976.6	1976.6	1973.8	1976.6	1973.8	1971.2	1968.6	1971.2
7.5°	1963.2	1957.9	1955.1	1952.5	1952.5	1952.5	1949.9	1947.1	1949.9	1941.8	1947.1
10°	1933.8	1931.2	1925.8	1923.1	1920.4	1923.1	1920.4	1915.1	1915.1	1915.1	1912.5
12.5°	1896.4	1891.0	1888.4	1885.8	1880.4	1880.4	1883.0	1877.7	1877.7	1872.4	1872.4
15°	1851.0	1845.6	1840.4	1840.4	1835.0	1835.0	1832.3	1832.3	1829.6	1827.0	1827.0
17.5°	1795.0	1786.9	1781.5	1784.2	1781.5	1778.9	1778.9	1773.5	1770.9	1773.5	1773.5
20°	1728.1	1722.8	1717.5	1720.1	1714.8	1712.1	1714.8	1706.8	1709.4	1709.4	1709.4
22.5°	1653.4	1650.7	1642.7	1642.7	1637.3	1634.7	1637.3	1637.3	1639.9	1637.3	1637.3
25°	1570.6	1565.2	1559.9	1559.9	1557.2	1554.5	1557.2	1559.9	1557.2	1559.9	1559.9
27.5°	1482.4	1474.4	1474.4	1469.1	1469.1	1471.7	1469.1	1471.7	1474.4	1474.4	1479.8
30°	1386.2	1383.6	1380.9	1378.2	1378.2	1380.9	1380.9	1380.9	1383.6	1389.0	1389.0
32.5°	1295.4	1290.1	1284.7	1284.7	1290.1	1287.4	1290.1	1290.1	1295.4	1295.4	1300.8
35°	1196.6	1196.6	1191.3	1193.9	1193.9	1193.9	1193.9	1199.3	1204.6	1207.3	1212.6
37.5°	1105.8	1097.7	1100.5	1100.5	1103.1	1100.5	1108.5	1108.5	1113.8	1113.8	1119.2
40°	1006.9	1006.9	1009.7	1006.9	1009.7	1009.7	1014.9	1020.3	1023.0	1028.4	1031.0
42.5°	913.5	918.9	913.5	916.1	918.9	921.5	924.1	926.9	937.6	942.8	950.9
45°	828.1	830.7	833.3	836.0	833.3	838.7	841.4	846.7	854.8	857.4	860.0
47.5°	745.2	747.9	750.5	753.2	753.2	758.6	761.2	766.6	771.9	774.6	777.3
50°	665.1	670.4	673.0	673.0	675.8	681.1	686.5	686.5	691.8	699.8	702.5
52.5°	593.0	593.0	598.3	600.9	603.7	603.7	611.7	614.3	617.0	622.4	627.6
55°	512.9	520.9	523.5	523.5	528.9	534.2	536.8	539.6	539.6	550.2	550.2
57.5°	443.4	446.0	451.4	451.4	451.4	459.4	459.4	464.7	467.5	470.1	475.5
60°	373.9	379.3	379.3	381.9	379.3	384.7	387.3	392.6	395.3	398.0	400.6
62.5°	309.8	309.8	312.6	312.6	312.6	312.6	317.8	317.8	323.2	325.9	328.5
65°	248.3	248.3	248.3	248.3	248.3	248.3	248.3	248.3	251.1	251.1	256.4
67.5°	192.3	189.6	184.3	187.0	184.3	184.3	181.6	181.6	184.3	184.3	189.6
70°	138.8	136.2	130.8	130.8	128.2	125.6	122.9	120.2	117.5	117.5	117.5
72.5°	90.8	85.4	77.5	74.8	74.8	69.5	64.1	61.5	61.5	61.5	61.5
75°	45.4	40.0	34.7	32.1	32.1	26.7	29.4	26.7	26.7	26.7	26.7
77.5°	18.7	13.3	10.7	10.7	10.7	8.0	8.0	8.0	8.0	8.0	8.0
80°	5.4	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: P584378

CATALOG NUMBER: HC835D010-HM82555827-81RWWC

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2000.5	2000.5	2000.5	2000.5	2000.5	2000.5	2000.5	2000.5
2.5°	1989.9	1989.9	1984.6	1987.2	1987.2	1987.2	1987.2	1987.2
5°	1965.8	1968.6	1965.8	1968.6	1968.6	1965.8	1965.8	1965.8
7.5°	1941.8	1944.5	1941.8	1944.5	1944.5	1944.5	1941.8	1941.8
10°	1912.5	1912.5	1912.5	1912.5	1912.5	1909.7	1912.5	1912.5
12.5°	1872.4	1872.4	1872.4	1875.0	1875.0	1872.4	1872.4	1869.7
15°	1829.6	1824.3	1827.0	1829.6	1827.0	1827.0	1827.0	1827.0
17.5°	1770.9	1773.5	1770.9	1770.9	1770.9	1770.9	1773.5	1770.9
20°	1709.4	1709.4	1712.1	1709.4	1709.4	1709.4	1709.4	1706.8
22.5°	1639.9	1637.3	1637.3	1639.9	1639.9	1637.3	1639.9	1639.9
25°	1562.6	1565.2	1562.6	1562.6	1565.2	1565.2	1565.2	1562.6
27.5°	1479.8	1482.4	1485.0	1482.4	1482.4	1482.4	1485.0	1487.8
30°	1394.2	1399.6	1394.2	1394.2	1399.6	1397.0	1399.6	1399.6
32.5°	1303.4	1311.5	1306.1	1311.5	1311.5	1314.1	1311.5	1314.1
35°	1212.6	1220.6	1220.6	1220.6	1223.3	1226.0	1226.0	1223.3
37.5°	1127.2	1129.8	1129.8	1135.2	1137.9	1140.5	1140.5	1137.9
40°	1039.0	1044.4	1047.1	1047.1	1047.1	1052.3	1057.7	1052.3
42.5°	953.5	956.2	958.9	958.9	964.3	966.9	969.5	969.5
45°	870.7	876.1	878.7	881.5	884.1	889.4	886.8	892.2
47.5°	785.3	793.3	796.0	798.6	804.0	806.6	809.4	812.0
50°	707.8	713.2	713.2	718.4	726.5	726.5	731.9	734.5
52.5°	630.4	633.0	635.7	638.4	643.7	649.1	649.1	654.3
55°	555.5	558.3	558.3	560.9	563.5	574.3	577.0	577.0
57.5°	478.1	478.1	483.4	486.1	488.8	494.2	494.2	494.2
60°	403.4	406.0	406.0	408.6	411.4	416.7	419.3	416.7
62.5°	328.5	331.2	331.2	333.9	339.3	341.9	339.3	339.3
65°	259.1	261.8	261.8	264.4	269.8	269.8	267.2	269.8
67.5°	189.6	189.6	189.6	189.6	189.6	189.6	189.6	189.6
70°	120.2	117.5	114.9	117.5	117.5	117.5	114.9	120.2
72.5°	58.8	61.5	61.5	61.5	61.5	61.5	61.5	58.8
75°	26.7	26.7	24.1	24.1	24.1	26.7	26.7	24.1
77.5°	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
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)