

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: P584726

Luminaire Tested: **HC845D010-HM82555927-81WWW**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584726
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: HC845D010-HM82555927-81WWW
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3611.2 lumens
Efficiency: N/A
Efficacy: 82.1 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

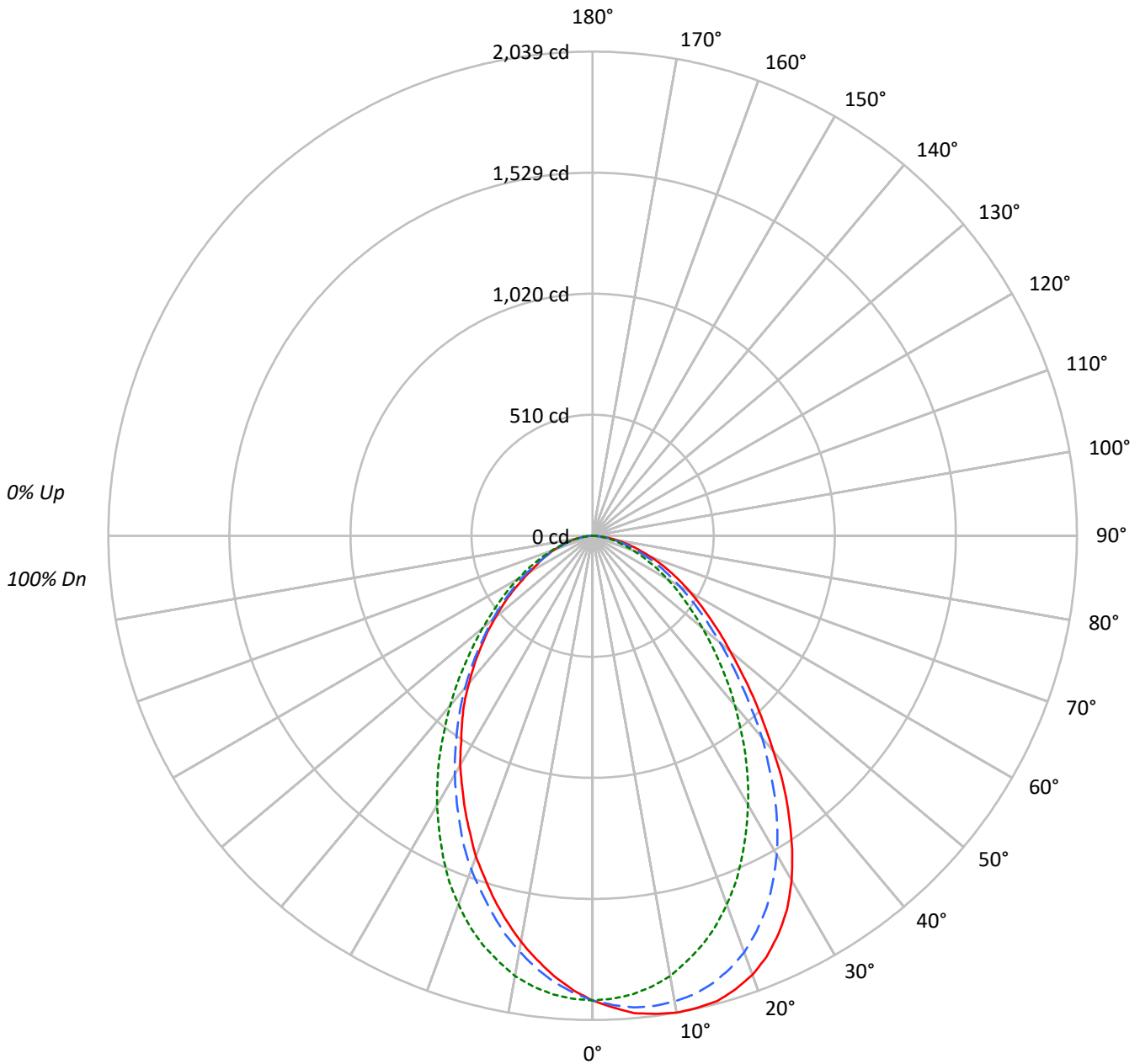
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	60337	60337	60337
5°	62459	59992	57612
10°	63845	58942	54370
15°	64755	56956	50772
20°	64561	54188	47133
25°	62962	50679	43272
30°	59652	46609	39705
35°	54268	42177	36082
40°	47665	37513	32594
45°	41568	32999	29061
50°	36171	28913	25598
55°	32257	25408	22268
60°	29313	22264	18995
65°	26340	19365	17234
70°	23459	16517	15552
75°	20552	13916	13296
80°	17438	11312	11791
85°	13162	8456	9376



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.3	5.1
10°-20°	505.0	14.0
20°-30°	701.0	19.4
30°-40°	724.7	20.1
40°-50°	606.8	16.8
50°-60°	440.5	12.2
60°-70°	278.0	7.7
70°-80°	137.7	3.8
80°-90°	34.2	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°	1389.2	38.5
0°-40°	2113.9	58.5
0°-60°	3161.3	87.5
0°-90°	3611.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3611.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1957	1957	1957	1957	1957	
5°	2018	1994	1938	1885	1861	193
15°	2028	1951	1784	1641	1590	571
25°	1850	1731	1490	1328	1272	848
35°	1442	1336	1120	993	958	898
45°	953	884	757	682	666	737
55°	600	547	473	433	414	542
65°	361	316	265	234	236	360
75°	172	143	117	112	112	185
85°	37	29	24	26	26	45
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°	1956.7	1956.7	1956.7	1956.7	1956.7	1956.7	1956.7	1956.7	1956.7	1956.7	1956.7
2.5°	1988.6	1988.6	1991.3	1988.6	1988.6	1988.6	1985.9	1985.9	1983.3	1983.3	1977.9
5°	2017.8	2012.5	2017.8	2012.5	2012.5	2012.5	2009.8	2004.5	2001.8	1996.6	1993.9
7.5°	2031.0	2028.4	2028.4	2025.8	2025.8	2023.1	2020.5	2017.8	2007.1	2004.5	1996.6
10°	2039.0	2036.3	2036.3	2033.7	2028.4	2028.4	2023.1	2020.5	2007.1	2001.8	1991.3
12.5°	2036.3	2036.3	2036.3	2033.7	2025.8	2023.1	2017.8	2009.8	1999.3	1988.6	1977.9
15°	2028.4	2028.4	2023.1	2020.5	2012.5	2007.1	2004.5	1991.3	1980.6	1967.4	1951.4
17.5°	2001.8	2001.8	1999.3	1993.9	1985.9	1980.6	1975.3	1962.1	1951.4	1930.2	1914.2
20°	1967.4	1964.7	1962.1	1954.1	1946.1	1943.4	1935.4	1916.9	1903.7	1887.7	1866.5
22.5°	1916.9	1914.2	1911.6	1906.2	1893.0	1887.7	1882.4	1869.1	1845.2	1829.3	1802.8
25°	1850.5	1850.5	1845.2	1837.3	1824.0	1818.6	1810.6	1797.4	1776.2	1752.3	1731.0
27.5°	1773.6	1770.9	1762.9	1757.6	1746.9	1739.0	1725.7	1709.8	1688.5	1670.0	1643.5
30°	1675.3	1675.3	1670.0	1662.0	1648.8	1643.5	1632.8	1614.3	1592.9	1569.1	1550.5
32.5°	1563.8	1563.8	1555.9	1550.5	1542.5	1529.2	1526.7	1505.4	1486.8	1468.2	1447.0
35°	1441.6	1444.3	1439.0	1428.4	1415.1	1415.1	1409.8	1391.2	1369.9	1351.4	1335.5
37.5°	1319.5	1311.5	1309.0	1303.6	1295.6	1285.0	1279.7	1271.8	1253.1	1239.9	1215.9
40°	1184.1	1186.7	1181.4	1176.2	1173.5	1165.5	1162.9	1149.7	1136.3	1120.4	1109.8
42.5°	1062.0	1062.0	1062.0	1056.6	1051.4	1043.4	1040.8	1032.8	1016.9	1006.2	990.4
45°	953.2	945.2	945.2	942.5	939.8	934.5	926.6	921.3	910.7	902.7	884.1
47.5°	846.9	849.6	846.9	844.3	836.3	833.7	831.0	820.4	809.7	801.9	788.5
50°	754.0	759.3	754.0	754.0	748.7	746.0	740.7	732.8	724.8	711.5	698.3
52.5°	677.1	677.1	674.4	671.7	663.8	658.4	655.8	653.1	639.9	629.2	618.6
55°	600.0	602.7	602.7	594.7	592.0	586.7	584.2	576.2	570.8	554.9	547.0
57.5°	533.6	531.0	533.6	528.3	523.0	517.8	515.1	509.8	501.8	491.1	480.6
60°	475.3	469.9	469.9	467.3	461.9	459.3	454.0	446.1	438.1	427.4	419.5
62.5°	416.9	414.2	411.5	408.9	403.5	400.9	398.2	390.3	382.3	374.3	366.4
65°	361.0	361.0	358.5	353.1	350.5	347.8	345.1	339.8	329.3	323.9	315.9
67.5°	310.6	308.0	308.0	302.6	297.4	294.7	294.7	289.4	281.4	273.4	268.1
70°	260.2	262.9	260.2	257.6	252.2	252.2	246.9	244.2	233.7	231.0	223.0
72.5°	215.0	215.0	212.4	212.4	207.0	204.5	204.5	199.2	193.8	188.5	183.2
75°	172.5	172.5	172.5	170.0	167.3	162.0	162.0	159.3	154.0	148.7	143.3
77.5°	135.4	132.8	132.8	130.1	127.4	124.8	124.8	122.1	116.8	114.1	108.9
80°	98.2	95.6	95.6	95.6	90.3	92.9	90.3	87.6	84.9	82.3	79.6
82.5°	63.7	66.4	66.4	63.7	61.1	61.1	61.1	58.4	58.4	55.7	53.1
85°	37.2	37.2	37.2	37.2	34.5	34.5	34.5	31.9	31.9	31.9	29.2
87.5°	16.0	16.0	16.0	16.0	16.0	16.0	13.3	13.3	13.3	13.3	13.3
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1956.7	1956.7	1956.7	1956.7	1956.7	1956.7	1956.7	1956.7	1956.7	1956.7	1956.7
2.5°	1977.9	1972.6	1970.1	1967.4	1967.4	1964.7	1962.1	1956.7	1956.7	1951.4	1948.7
5°	1988.6	1980.6	1975.3	1970.1	1967.4	1962.1	1956.7	1948.7	1946.1	1938.1	1930.2
7.5°	1991.3	1977.9	1972.6	1962.1	1956.7	1951.4	1940.8	1932.9	1922.2	1914.2	1903.7
10°	1980.6	1970.1	1956.7	1943.4	1940.8	1932.9	1916.9	1906.2	1893.0	1882.4	1866.5
12.5°	1964.7	1948.7	1935.4	1919.5	1911.6	1903.7	1887.7	1871.8	1853.2	1834.6	1818.6
15°	1938.1	1919.5	1901.0	1882.4	1871.8	1863.8	1845.2	1826.6	1808.1	1784.1	1768.2
17.5°	1898.3	1877.0	1858.5	1834.6	1824.0	1816.0	1792.1	1770.9	1746.9	1723.1	1707.2
20°	1847.8	1821.3	1800.1	1773.6	1765.6	1752.3	1728.4	1704.5	1678.0	1651.3	1632.8
22.5°	1781.6	1754.9	1731.0	1704.5	1691.2	1678.0	1654.0	1624.8	1598.3	1577.1	1558.4
25°	1704.5	1680.6	1651.3	1627.5	1611.6	1595.6	1569.1	1545.2	1521.3	1489.5	1470.8
27.5°	1619.6	1590.4	1569.1	1537.2	1521.3	1510.7	1481.5	1449.6	1428.4	1399.2	1377.9
30°	1524.0	1497.5	1473.5	1441.6	1425.8	1415.1	1388.6	1359.4	1338.2	1309.0	1287.7
32.5°	1423.1	1393.9	1364.7	1343.4	1324.8	1314.2	1285.0	1266.4	1239.9	1215.9	1192.1
35°	1314.2	1285.0	1263.8	1234.6	1223.9	1213.4	1189.4	1165.5	1141.7	1120.4	1101.8
37.5°	1197.4	1176.2	1152.2	1131.0	1123.0	1112.5	1083.3	1062.0	1043.4	1022.2	1006.2
40°	1083.3	1064.6	1048.7	1027.4	1014.2	1006.2	985.0	966.4	945.2	931.9	916.0
42.5°	979.7	958.5	942.5	926.6	913.3	905.3	886.8	873.5	857.6	844.3	825.7
45°	870.8	860.2	841.6	828.4	820.4	809.7	796.5	780.5	767.3	756.7	743.4
47.5°	775.2	764.7	751.3	735.5	730.1	722.1	708.8	698.3	687.6	677.1	663.8
50°	687.6	674.4	663.8	653.1	647.8	639.9	626.6	621.2	613.2	602.7	594.7
52.5°	608.0	597.4	586.7	573.5	570.8	565.5	557.5	547.0	539.0	533.6	528.3
55°	536.3	525.7	517.8	507.1	504.4	499.1	488.6	483.2	477.9	472.6	467.3
57.5°	472.6	461.9	451.4	446.1	440.7	435.4	432.7	424.7	419.5	416.9	411.5
60°	414.2	403.5	395.5	387.7	385.0	382.3	377.0	371.7	366.4	361.0	358.5
62.5°	358.5	347.8	342.5	337.2	331.8	331.8	326.6	321.3	315.9	313.3	308.0
65°	308.0	302.6	294.7	286.7	284.1	284.1	276.1	273.4	270.8	265.4	260.2
67.5°	260.2	254.9	246.9	244.2	241.6	238.9	236.2	231.0	225.7	223.0	217.7
70°	217.7	212.4	207.0	204.5	201.8	199.2	193.8	191.2	185.8	183.2	180.5
72.5°	175.2	172.5	167.3	164.6	162.0	159.3	156.6	154.0	148.7	146.0	143.3
75°	140.8	138.1	132.8	130.1	127.4	127.4	124.8	119.5	116.8	116.8	114.1
77.5°	106.2	103.6	100.9	98.2	95.6	95.6	92.9	90.3	87.6	87.6	84.9
80°	76.9	74.4	71.7	71.7	71.7	69.0	66.4	66.4	63.7	63.7	61.1
82.5°	50.4	50.4	47.7	47.7	47.7	45.2	45.2	42.5	42.5	42.5	42.5
85°	29.2	29.2	29.2	26.5	26.5	26.5	26.5	26.5	26.5	23.9	26.5
87.5°	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	10.7	10.7	10.7
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°	1956.7	1956.7	1956.7	1956.7	1956.7	1956.7	1956.7	1956.7	1956.7	1956.7	1956.7
2.5°	1946.1	1943.4	1938.1	1938.1	1932.9	1932.9	1930.2	1927.5	1924.9	1922.2	1919.5
5°	1927.5	1916.9	1911.6	1908.9	1903.7	1901.0	1893.0	1887.7	1885.0	1879.7	1874.5
7.5°	1893.0	1882.4	1871.8	1869.1	1866.5	1855.8	1847.8	1839.9	1834.6	1829.3	1824.0
10°	1853.2	1842.5	1829.3	1824.0	1818.6	1805.4	1794.8	1786.8	1776.2	1765.6	1762.9
12.5°	1805.4	1789.4	1773.6	1768.2	1760.2	1746.9	1736.4	1723.1	1715.2	1701.8	1699.2
15°	1749.6	1731.0	1717.7	1704.5	1699.2	1686.0	1667.3	1656.7	1640.8	1635.5	1622.1
17.5°	1683.3	1664.7	1646.1	1640.8	1632.8	1614.3	1595.6	1582.4	1566.4	1558.4	1550.5
20°	1614.3	1590.4	1571.7	1566.4	1555.9	1539.9	1521.3	1508.0	1494.8	1478.8	1470.8
22.5°	1534.6	1508.0	1492.1	1478.8	1476.2	1457.6	1436.3	1425.8	1415.1	1401.9	1391.2
25°	1447.0	1423.1	1404.4	1393.9	1388.6	1372.6	1356.7	1343.4	1327.5	1319.5	1306.3
27.5°	1356.7	1340.7	1316.9	1306.3	1298.3	1285.0	1266.4	1258.5	1242.6	1231.9	1223.9
30°	1269.1	1245.1	1231.9	1218.6	1210.7	1197.4	1181.4	1173.5	1160.2	1149.7	1141.7
32.5°	1173.5	1157.5	1139.0	1133.7	1123.0	1109.8	1099.2	1085.8	1075.3	1064.6	1062.0
35°	1085.8	1064.6	1046.1	1040.8	1032.8	1019.6	1014.2	1006.2	992.9	990.4	979.7
37.5°	990.4	979.7	958.5	950.5	947.8	937.2	926.6	921.3	913.3	905.3	902.7
40°	900.0	886.8	876.1	868.1	862.9	854.9	844.3	841.6	836.3	825.7	823.1
42.5°	815.1	801.9	791.2	788.5	780.5	772.7	767.3	759.3	756.7	754.0	748.7
45°	732.8	724.8	714.2	711.5	708.8	698.3	693.0	687.6	682.3	679.6	674.4
47.5°	658.4	650.4	642.5	639.9	634.6	631.9	623.9	621.2	613.2	610.7	608.0
50°	586.7	581.5	576.2	573.5	568.2	565.5	560.2	554.9	549.6	547.0	544.3
52.5°	523.0	517.8	512.4	509.8	507.1	501.8	496.5	491.1	488.6	485.9	483.2
55°	461.9	456.6	454.0	451.4	448.7	446.1	438.1	435.4	432.7	430.1	424.7
57.5°	406.2	400.9	395.5	395.5	393.0	390.3	385.0	379.7	379.7	374.3	369.0
60°	355.8	350.5	345.1	342.5	339.8	334.5	331.8	329.3	326.6	323.9	318.6
62.5°	302.6	300.1	294.7	294.7	289.4	286.7	284.1	281.4	278.8	273.4	270.8
65°	257.6	254.9	249.6	246.9	246.9	244.2	238.9	236.2	233.7	233.7	231.0
67.5°	215.0	212.4	207.0	204.5	204.5	201.8	199.2	199.2	196.5	193.8	196.5
70°	177.8	172.5	172.5	170.0	170.0	167.3	164.6	164.6	164.6	167.3	167.3
72.5°	140.8	138.1	135.4	135.4	135.4	135.4	132.8	132.8	135.4	138.1	138.1
75°	111.6	108.9	108.9	108.9	106.2	106.2	108.9	108.9	111.6	111.6	111.6
77.5°	82.3	82.3	82.3	82.3	82.3	82.3	84.9	84.9	87.6	87.6	87.6
80°	61.1	61.1	61.1	61.1	61.1	63.7	63.7	63.7	63.7	63.7	66.4
82.5°	42.5	42.5	42.5	42.5	42.5	42.5	42.5	45.2	45.2	45.2	45.2
85°	23.9	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5
87.5°	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7
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: P584726

CATALOG NUMBER: HC845D010-HM82555927-81WWW

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1956.7	1956.7	1956.7	1956.7	1956.7	1956.7	1956.7	1956.7
2.5°	1916.9	1916.9	1916.9	1919.5	1914.2	1914.2	1914.2	1914.2
5°	1871.8	1869.1	1866.5	1869.1	1863.8	1863.8	1861.2	1861.2
7.5°	1816.0	1813.3	1810.6	1810.6	1805.4	1805.4	1802.8	1800.1
10°	1754.9	1749.6	1752.3	1746.9	1744.4	1741.7	1739.0	1736.4
12.5°	1688.5	1683.3	1680.6	1675.3	1670.0	1667.3	1670.0	1664.7
15°	1616.9	1608.9	1606.3	1600.9	1595.6	1592.9	1592.9	1590.4
17.5°	1537.2	1531.9	1529.2	1524.0	1521.3	1516.0	1513.3	1510.7
20°	1462.8	1449.6	1452.3	1447.0	1444.3	1433.6	1433.6	1436.3
22.5°	1380.6	1372.6	1367.4	1362.0	1359.4	1354.0	1354.0	1351.4
25°	1298.3	1290.3	1287.7	1282.3	1279.7	1274.3	1271.8	1271.8
27.5°	1218.6	1208.1	1208.1	1202.7	1197.4	1194.7	1192.1	1189.4
30°	1133.7	1125.7	1123.0	1123.0	1120.4	1120.4	1112.5	1115.1
32.5°	1054.1	1048.7	1046.1	1040.8	1040.8	1038.1	1038.1	1030.1
35°	974.4	966.4	969.0	963.7	961.2	958.5	961.2	958.5
37.5°	897.3	892.1	892.1	886.8	886.8	884.1	881.5	886.8
40°	820.4	817.7	815.1	812.4	815.1	812.4	807.1	809.7
42.5°	743.4	743.4	740.7	740.7	738.1	738.1	738.1	738.1
45°	674.4	671.7	671.7	669.1	669.1	669.1	669.1	666.4
47.5°	605.4	602.7	602.7	602.7	600.0	600.0	597.4	600.0
50°	539.0	539.0	536.3	536.3	539.0	536.3	533.6	533.6
52.5°	477.9	477.9	475.3	475.3	472.6	469.9	472.6	472.6
55°	422.2	419.5	416.9	416.9	414.2	411.5	411.5	414.2
57.5°	369.0	366.4	363.7	363.7	358.5	355.8	355.8	355.8
60°	318.6	313.3	313.3	310.6	310.6	308.0	308.0	308.0
62.5°	270.8	268.1	268.1	268.1	268.1	265.4	265.4	265.4
65°	231.0	231.0	231.0	233.7	233.7	236.2	236.2	236.2
67.5°	199.2	201.8	201.8	201.8	204.5	204.5	204.5	201.8
70°	170.0	170.0	170.0	172.5	172.5	172.5	172.5	172.5
72.5°	140.8	140.8	140.8	140.8	140.8	140.8	140.8	140.8
75°	111.6	114.1	114.1	114.1	111.6	114.1	114.1	111.6
77.5°	87.6	87.6	87.6	87.6	87.6	87.6	87.6	87.6
80°	66.4	66.4	66.4	66.4	66.4	66.4	66.4	66.4
82.5°	45.2	45.2	45.2	45.2	45.2	45.2	45.2	45.2
85°	26.5	26.5	26.5	26.5	26.5	26.5	26.5	26.5
87.5°	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7
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)