

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: P584863

Luminaire Tested: **HC850D010-HM82555927-81WWWB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584863
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-18)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC850D010-HM82555927-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3960.4 lumens
Efficiency: N/A
Efficacy: 82.5 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.09 / 1.18
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

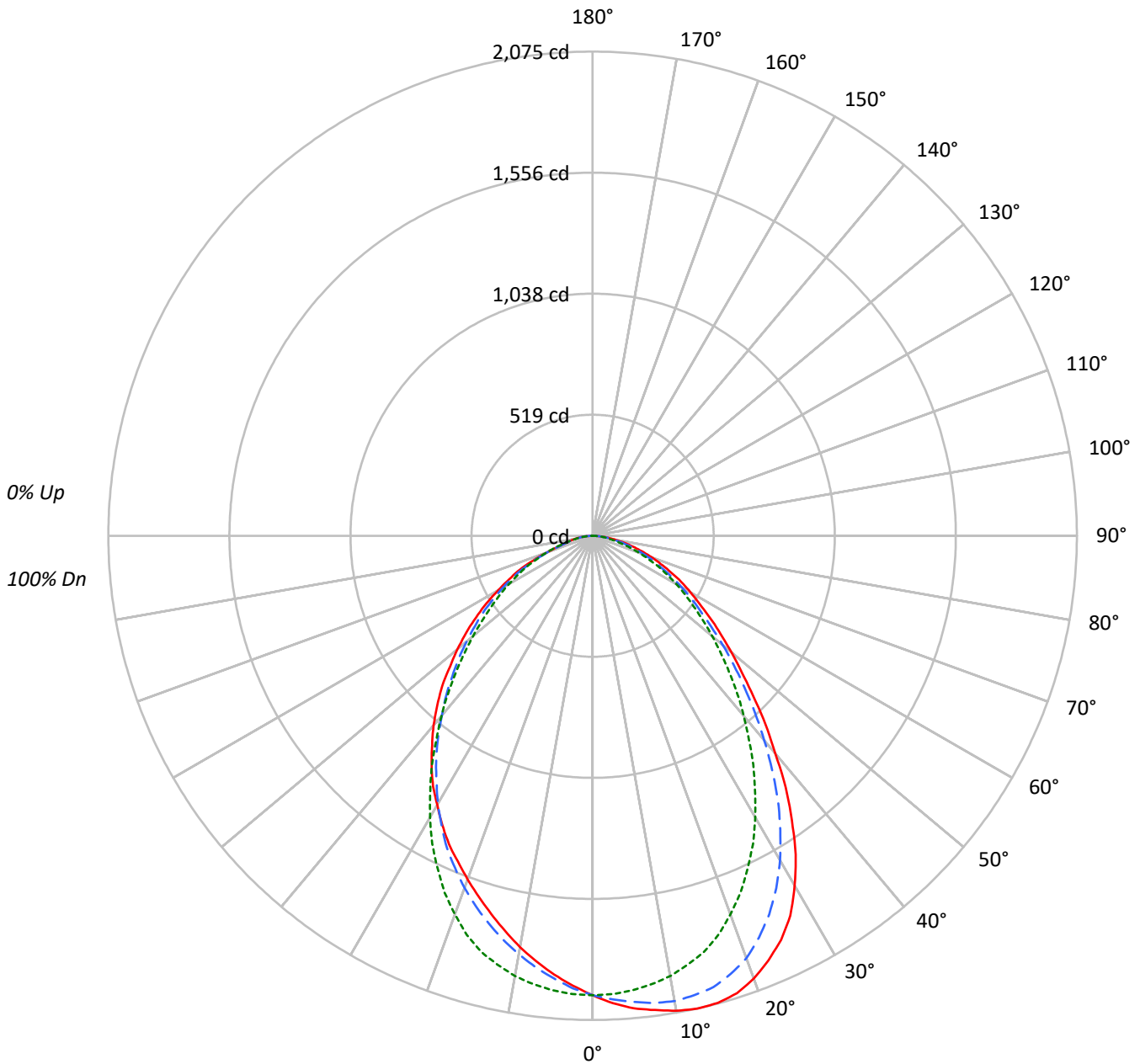
Input Watts (W): 48
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	110	106	103	99	108	104	101	98	100	97	95	96	94	92	92	91	89	87								
2	102	94	88	83	99	93	87	82	89	85	81	86	82	79	83	80	77	75								
3	94	84	77	71	91	83	76	71	80	74	69	77	72	68	75	71	67	65								
4	87	76	68	62	84	75	67	61	72	66	61	70	64	60	68	63	59	57								
5	80	69	60	54	78	67	60	54	65	59	54	64	58	53	62	57	52	50								
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45								
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40								
8	65	52	45	39	64	52	44	39	51	44	39	49	43	39	48	43	38	37								
9	61	48	41	36	60	48	41	36	47	40	35	46	40	35	45	39	35	33								
10	57	45	38	33	56	44	37	33	44	37	32	43	37	32	42	36	32	30								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	60720	60720	60720
5°	62945	60521	58438
10°	64722	59994	56052
15°	66166	58935	53575
20°	66267	56633	51399
25°	65000	53486	49583
30°	61649	49597	47407
35°	56015	45173	45275
40°	48977	40536	42669
45°	42445	36104	39763
50°	37169	32065	36229
55°	33085	28418	32784
60°	29837	25526	28807
65°	26939	22451	25100
70°	24208	18906	18663
75°	21326	15000	13999
80°	17882	12413	13407
85°	13869	10862	11888



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	185.8	4.7
10°-20°	523.2	13.2
20°-30°	747.7	18.9
30°-40°	794.5	20.1
40°-50°	684.1	17.3
50°-60°	511.4	12.9
60°-70°	326.2	8.2
70°-80°	148.5	3.7
80°-90°	39.0	1.0
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°	1456.7	36.8
0°-40°	2251.2	56.8
0°-60°	3446.7	87.0
0°-90°	3960.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3960.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1969	1969	1969	1969	1969	
5°	2034	2005	1955	1905	1888	195
15°	2073	2003	1846	1720	1678	584
25°	1910	1790	1572	1477	1457	874
35°	1488	1385	1200	1169	1203	927
45°	973	920	828	850	912	757
55°	615	565	529	573	610	553
65°	369	327	308	322	344	368
75°	179	154	126	115	118	190
85°	39	34	31	34	34	47
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°	1969.1	1969.1	1969.1	1969.1	1969.1	1969.1	1969.1	1969.1	1969.1	1969.1	1969.1
2.5°	2005.4	1999.9	2002.6	1999.9	2002.6	2002.6	1997.1	1997.1	1997.1	1997.1	1988.7
5°	2033.5	2030.7	2030.7	2027.9	2025.1	2027.9	2025.1	2022.3	2016.6	2013.8	2005.4
7.5°	2050.2	2050.2	2050.2	2050.2	2047.4	2044.6	2041.8	2036.3	2030.7	2025.1	2019.4
10°	2067.0	2069.8	2067.0	2064.2	2061.4	2055.8	2053.0	2047.4	2039.1	2030.7	2025.1
12.5°	2075.4	2075.4	2072.6	2072.6	2067.0	2064.2	2055.8	2047.4	2039.1	2030.7	2016.6
15°	2072.6	2072.6	2069.8	2067.0	2058.6	2055.8	2050.2	2041.8	2027.9	2016.6	2002.6
17.5°	2055.8	2053.0	2047.4	2047.4	2036.3	2033.5	2027.9	2016.6	2002.6	1985.9	1969.1
20°	2019.4	2019.4	2016.6	2013.8	2002.6	1994.3	1988.7	1974.7	1963.5	1943.9	1927.1
22.5°	1969.1	1974.7	1969.1	1963.5	1949.5	1946.7	1938.3	1921.6	1904.8	1882.4	1862.8
25°	1910.4	1907.6	1904.8	1899.2	1887.9	1882.4	1871.2	1854.4	1837.7	1812.4	1790.1
27.5°	1834.9	1823.6	1823.6	1812.4	1804.1	1795.7	1790.1	1773.3	1750.9	1731.4	1703.3
30°	1731.4	1734.2	1720.2	1717.4	1703.3	1697.7	1686.6	1669.8	1650.3	1627.8	1605.5
32.5°	1619.5	1611.1	1611.1	1599.9	1588.7	1580.4	1577.6	1557.9	1541.2	1518.8	1496.4
35°	1488.0	1488.0	1479.6	1476.8	1465.7	1460.1	1451.7	1440.4	1420.9	1401.3	1384.6
37.5°	1359.3	1353.7	1351.0	1345.4	1337.0	1328.6	1328.6	1309.0	1306.2	1283.8	1261.5
40°	1216.7	1222.3	1216.7	1208.3	1205.5	1200.0	1197.2	1186.0	1177.5	1158.0	1144.0
42.5°	1096.4	1090.8	1090.8	1088.0	1076.9	1076.9	1071.3	1065.7	1051.6	1046.1	1029.3
45°	973.3	978.9	970.6	973.3	962.2	962.2	962.2	951.0	939.8	931.5	920.2
47.5°	867.0	869.9	869.9	861.4	858.6	858.6	853.1	847.5	839.1	827.9	819.5
50°	774.8	777.6	772.0	769.2	763.6	760.8	760.8	749.6	744.0	732.8	727.2
52.5°	690.9	690.9	688.1	688.1	679.7	679.7	674.0	665.7	660.1	654.5	640.5
55°	615.4	615.4	612.6	609.8	609.8	601.3	598.5	590.2	584.6	573.4	565.0
57.5°	542.6	545.5	542.6	539.8	537.0	534.2	528.6	520.2	514.6	506.3	500.7
60°	483.8	483.8	481.0	478.2	472.7	469.9	467.1	461.5	453.1	447.5	439.1
62.5°	428.0	425.2	422.4	419.6	413.9	413.9	408.3	402.7	394.4	388.8	383.2
65°	369.2	369.2	366.4	366.4	363.6	358.1	355.3	352.5	341.2	338.4	327.2
67.5°	316.1	318.9	313.3	313.3	307.7	307.7	304.9	296.5	293.7	288.0	282.5
70°	268.5	268.5	268.5	265.7	260.1	257.3	254.5	248.9	246.2	240.6	235.0
72.5°	220.9	220.9	218.1	218.1	215.3	212.5	209.7	204.2	204.2	198.6	193.0
75°	179.0	179.0	176.2	173.4	170.7	170.7	167.9	165.1	159.5	156.6	153.8
77.5°	137.0	137.0	137.0	134.2	131.5	131.5	131.5	125.9	120.3	120.3	117.5
80°	100.7	100.7	97.8	97.8	95.2	95.2	95.2	92.4	89.5	86.7	83.9
82.5°	67.1	67.1	67.1	67.1	64.3	64.3	64.3	61.5	58.7	58.7	58.7
85°	39.2	39.2	39.2	39.2	36.4	36.4	36.4	36.4	36.4	33.6	33.6
87.5°	16.8	14.0	16.8	14.0	16.8	14.0	16.8	14.0	14.0	14.0	14.0
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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	1969.1	1969.1	1969.1	1969.1	1969.1	1969.1	1969.1	1969.1	1969.1	1969.1	1969.1
2.5°	1991.5	1988.7	1985.9	1983.1	1983.1	1980.3	1974.7	1971.9	1969.1	1966.3	1966.3
5°	2002.6	1999.9	1994.3	1988.7	1985.9	1980.3	1974.7	1969.1	1963.5	1955.2	1952.3
7.5°	2011.0	2002.6	1997.1	1985.9	1983.1	1977.5	1969.1	1960.8	1949.5	1938.3	1929.9
10°	2011.0	1999.9	1991.5	1977.5	1971.9	1966.3	1955.2	1941.1	1927.1	1916.0	1902.0
12.5°	2005.4	1991.5	1977.5	1963.5	1955.2	1946.7	1929.9	1916.0	1899.2	1882.4	1871.2
15°	1985.9	1969.1	1952.3	1935.5	1927.1	1916.0	1899.2	1879.6	1862.8	1846.1	1826.4
17.5°	1949.5	1932.7	1913.2	1893.5	1882.4	1874.0	1848.8	1834.9	1809.7	1792.9	1776.1
20°	1902.0	1882.4	1857.2	1837.7	1823.6	1815.2	1795.7	1770.6	1750.9	1725.8	1709.0
22.5°	1840.5	1815.2	1790.1	1770.6	1756.5	1745.3	1720.2	1695.0	1678.2	1655.9	1636.2
25°	1767.8	1742.5	1717.4	1689.4	1675.4	1664.2	1641.9	1619.5	1597.1	1572.0	1555.1
27.5°	1681.0	1653.1	1630.6	1605.5	1591.5	1574.8	1549.5	1527.2	1504.9	1488.0	1465.7
30°	1585.9	1555.1	1532.8	1507.5	1493.6	1479.6	1454.5	1432.0	1412.5	1392.9	1381.8
32.5°	1471.2	1448.9	1426.5	1401.3	1390.2	1381.8	1356.5	1334.2	1311.9	1295.0	1286.6
35°	1362.1	1337.0	1317.3	1295.0	1281.0	1272.7	1250.2	1230.7	1219.5	1200.0	1188.8
37.5°	1247.4	1227.9	1205.5	1183.1	1174.7	1166.3	1149.6	1130.0	1113.2	1099.2	1093.6
40°	1127.1	1110.4	1090.8	1076.9	1068.5	1060.0	1046.1	1032.1	1020.9	1007.0	1001.4
42.5°	1012.5	1001.4	984.5	967.8	959.4	956.6	939.8	928.7	923.0	917.4	911.8
45°	909.0	892.3	881.1	869.9	861.4	855.9	847.5	839.1	833.5	827.9	822.3
47.5°	808.4	794.3	783.1	774.8	766.4	763.6	758.0	749.6	744.0	744.0	744.0
50°	716.0	704.9	693.7	688.1	685.3	679.7	674.0	671.2	668.4	668.4	668.4
52.5°	634.9	623.8	615.4	609.8	609.8	604.1	598.5	595.7	595.7	595.7	595.7
55°	559.4	551.1	545.5	539.8	534.2	531.4	531.4	531.4	528.6	528.6	531.4
57.5°	492.3	486.7	478.2	472.7	469.9	469.9	467.1	464.3	467.1	469.9	472.7
60°	430.8	425.2	422.4	413.9	413.9	413.9	411.1	411.1	411.1	413.9	416.7
62.5°	374.8	372.0	366.4	363.6	360.9	360.9	358.1	358.1	358.1	358.1	360.9
65°	324.4	318.9	313.3	313.3	313.3	310.5	310.5	304.9	307.7	307.7	304.9
67.5°	276.9	271.3	268.5	265.7	262.9	262.9	260.1	257.3	254.5	254.5	254.5
70°	232.2	226.6	226.6	220.9	220.9	218.1	215.3	215.3	212.5	209.7	207.0
72.5°	187.4	184.6	181.8	179.0	179.0	179.0	176.2	173.4	170.7	167.9	162.3
75°	148.2	148.2	142.6	139.8	139.8	137.0	134.2	131.5	128.7	125.9	123.1
77.5°	114.7	111.9	106.3	103.5	103.5	103.5	100.7	97.8	95.2	92.4	89.5
80°	83.9	81.1	78.3	75.5	75.5	75.5	72.7	72.7	69.9	69.9	69.9
82.5°	56.0	56.0	53.2	53.2	53.2	53.2	50.4	50.4	50.4	50.4	50.4
85°	33.6	33.6	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7	30.7
87.5°	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
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°	1969.1	1969.1	1969.1	1969.1	1969.1	1969.1	1969.1	1969.1	1969.1	1969.1	1969.1
2.5°	1960.8	1960.8	1955.2	1952.3	1949.5	1952.3	1946.7	1943.9	1941.1	1941.1	1938.3
5°	1943.9	1941.1	1929.9	1927.1	1924.4	1921.6	1916.0	1910.4	1904.8	1902.0	1899.2
7.5°	1921.6	1913.2	1902.0	1899.2	1896.4	1887.9	1879.6	1874.0	1865.6	1862.8	1857.2
10°	1890.7	1879.6	1871.2	1862.8	1857.2	1848.8	1840.5	1832.1	1820.8	1818.0	1809.7
12.5°	1854.4	1840.5	1823.6	1820.8	1812.4	1801.3	1790.1	1781.7	1773.3	1767.8	1759.3
15°	1809.7	1795.7	1778.9	1770.6	1762.2	1753.7	1739.7	1728.6	1720.2	1711.8	1703.3
17.5°	1756.5	1739.7	1725.8	1717.4	1711.8	1697.7	1686.6	1672.6	1664.2	1655.9	1647.5
20°	1692.2	1678.2	1658.6	1650.3	1647.5	1636.2	1622.2	1616.7	1605.5	1597.1	1591.5
22.5°	1619.5	1605.5	1588.7	1583.1	1572.0	1566.3	1552.3	1546.7	1541.2	1532.8	1530.0
25°	1538.4	1524.4	1510.3	1507.5	1499.2	1493.6	1485.2	1476.8	1476.8	1468.4	1468.4
27.5°	1454.5	1440.4	1429.3	1423.7	1420.9	1415.3	1406.9	1404.1	1401.3	1398.5	1398.5
30°	1364.9	1348.2	1342.6	1339.8	1337.0	1331.4	1328.6	1323.0	1325.8	1328.6	1325.8
32.5°	1269.9	1264.3	1253.1	1247.4	1250.2	1247.4	1241.8	1247.4	1244.6	1250.2	1253.1
35°	1177.5	1171.9	1166.3	1166.3	1160.8	1160.8	1160.8	1163.5	1169.1	1171.9	1177.5
37.5°	1088.0	1079.7	1076.9	1074.1	1076.9	1076.9	1076.9	1082.5	1088.0	1093.6	1102.0
40°	992.9	987.3	987.3	987.3	987.3	995.8	992.9	998.6	1004.2	1012.5	1020.9
42.5°	903.4	903.4	906.2	906.2	906.2	906.2	911.8	920.2	928.7	937.0	945.4
45°	819.5	819.5	819.5	825.1	825.1	827.9	839.1	844.7	850.3	858.6	867.0
47.5°	741.3	741.3	744.0	746.8	749.6	755.2	760.8	769.2	777.6	783.1	791.5
50°	668.4	671.2	676.9	682.5	682.5	685.3	693.7	699.3	704.9	713.2	716.0
52.5°	598.5	604.1	609.8	612.6	615.4	621.0	623.8	632.1	634.9	643.3	646.1
55°	534.2	537.0	545.5	548.3	548.3	553.8	559.4	565.0	573.4	573.4	579.0
57.5°	475.5	478.2	483.8	486.7	483.8	492.3	495.1	500.7	503.5	509.1	511.9
60°	416.7	422.4	425.2	425.2	428.0	430.8	436.4	436.4	441.9	447.5	447.5
62.5°	360.9	363.6	366.4	369.2	372.0	369.2	377.6	377.6	383.2	386.0	391.6
65°	307.7	310.5	310.5	313.3	313.3	316.1	316.1	318.9	321.7	327.2	330.0
67.5°	254.5	254.5	254.5	257.3	254.5	257.3	257.3	260.1	260.1	265.7	268.5
70°	207.0	204.2	201.4	201.4	201.4	201.4	198.6	201.4	201.4	204.2	204.2
72.5°	159.5	156.6	153.8	151.0	151.0	148.2	145.4	148.2	148.2	151.0	151.0
75°	120.3	114.7	114.7	114.7	111.9	111.9	111.9	114.7	114.7	114.7	117.5
77.5°	89.5	89.5	86.7	86.7	86.7	89.5	89.5	92.4	92.4	92.4	92.4
80°	67.1	69.9	69.9	69.9	69.9	72.7	72.7	72.7	72.7	75.5	75.5
82.5°	50.4	50.4	50.4	50.4	53.2	53.2	53.2	53.2	53.2	53.2	53.2
85°	30.7	33.6	33.6	30.7	33.6	33.6	33.6	33.6	33.6	33.6	33.6
87.5°	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
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: P584863

CATALOG NUMBER: HC850D010-HM82555927-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1969.1	1969.1	1969.1	1969.1	1969.1	1969.1	1969.1	1969.1
2.5°	1935.5	1935.5	1935.5	1935.5	1932.7	1932.7	1932.7	1929.9
5°	1893.5	1893.5	1893.5	1887.9	1890.7	1890.7	1885.2	1887.9
7.5°	1851.6	1848.8	1846.1	1846.1	1843.3	1840.5	1837.7	1840.5
10°	1804.1	1795.7	1795.7	1792.9	1792.9	1787.3	1787.3	1790.1
12.5°	1750.9	1745.3	1745.3	1742.5	1739.7	1736.9	1734.2	1734.2
15°	1697.7	1692.2	1689.4	1686.6	1683.8	1678.2	1681.0	1678.2
17.5°	1644.7	1636.2	1636.2	1633.4	1630.6	1625.0	1625.0	1622.2
20°	1583.1	1580.4	1574.8	1577.6	1574.8	1569.1	1566.3	1566.3
22.5°	1521.6	1521.6	1518.8	1518.8	1516.0	1513.2	1510.3	1510.3
25°	1462.9	1460.1	1462.9	1462.9	1454.5	1454.5	1454.5	1457.3
27.5°	1395.7	1398.5	1395.7	1395.7	1395.7	1395.7	1398.5	1395.7
30°	1328.6	1328.6	1328.6	1331.4	1337.0	1334.2	1334.2	1331.4
32.5°	1255.9	1258.7	1258.7	1261.5	1264.3	1269.9	1269.9	1272.7
35°	1183.1	1188.8	1191.6	1188.8	1197.2	1197.2	1202.7	1202.7
37.5°	1107.6	1110.4	1116.0	1118.8	1124.5	1127.1	1130.0	1130.0
40°	1026.5	1037.7	1040.5	1043.3	1051.6	1051.6	1054.4	1060.0
42.5°	951.0	962.2	965.0	967.8	973.3	981.7	978.9	984.5
45°	878.3	886.7	889.5	892.3	900.6	903.4	903.4	911.8
47.5°	799.9	805.6	808.4	814.0	819.5	825.1	830.7	827.9
50°	721.6	730.0	735.7	738.5	746.8	749.6	752.4	755.2
52.5°	651.7	657.3	660.1	662.9	671.2	674.0	676.9	682.5
55°	584.6	587.4	592.9	590.2	598.5	601.3	604.1	609.8
57.5°	517.4	520.2	523.0	523.0	528.6	534.2	537.0	539.8
60°	453.1	458.7	461.5	461.5	461.5	467.1	467.1	467.1
62.5°	394.4	394.4	397.2	397.2	402.7	402.7	402.7	402.7
65°	332.8	335.6	338.4	338.4	344.0	341.2	346.8	344.0
67.5°	268.5	268.5	274.1	274.1	271.3	274.1	274.1	274.1
70°	204.2	204.2	207.0	207.0	207.0	207.0	207.0	207.0
72.5°	151.0	151.0	151.0	153.8	151.0	151.0	153.8	151.0
75°	117.5	117.5	117.5	117.5	117.5	117.5	117.5	117.5
77.5°	92.4	92.4	95.2	95.2	95.2	95.2	95.2	95.2
80°	75.5	75.5	75.5	75.5	78.3	75.5	75.5	75.5
82.5°	56.0	53.2	56.0	53.2	56.0	56.0	56.0	56.0
85°	33.6	33.6	33.6	33.6	33.6	33.6	33.6	33.6
87.5°	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
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)