

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: P584861

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

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584861
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-17)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC850D010-HM82555927-81WWBB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3484.9 lumens
Efficiency: N/A
Efficacy: 72.6 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.07 / 1.16
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

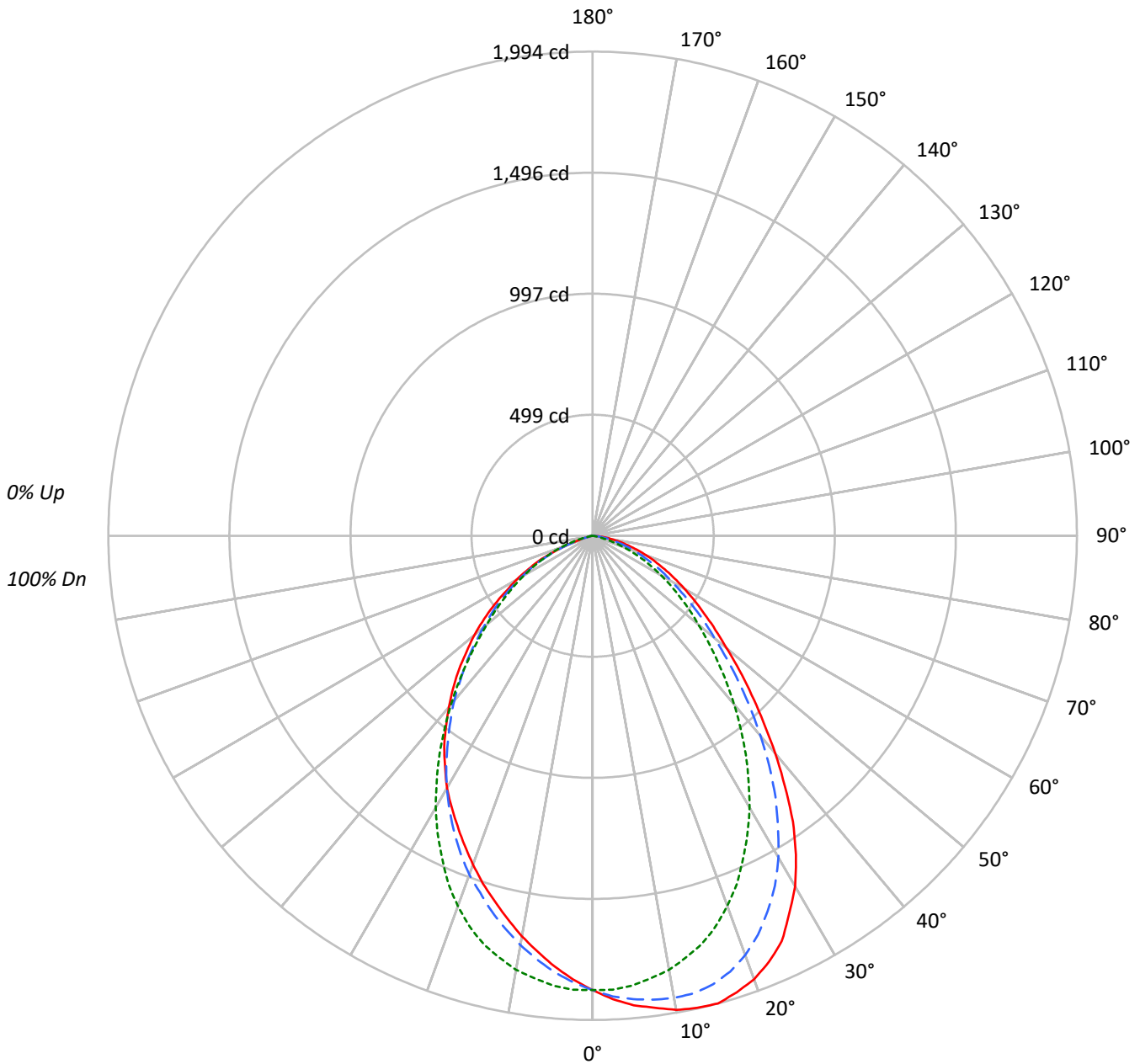
Input Watts (W): 48
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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	86	100	94	89	85	91	86	83	88	84	81	85	82	79	77				77				
3	95	86	79	74	93	85	78	73	82	76	72	79	74	71	77	73	69	67				67				
4	88	78	70	64	86	76	69	64	74	68	63	72	66	62	70	65	61	59				59				
5	82	70	63	57	80	69	62	56	67	61	56	65	60	55	64	59	55	53				53				
6	76	64	56	51	74	63	56	50	62	55	50	60	54	50	58	53	49	47				47				
7	71	59	51	45	69	58	51	45	57	50	45	55	49	45	54	49	44	43				43				
8	66	54	46	41	65	53	46	41	52	46	41	51	45	41	50	44	40	39				39				
9	62	50	43	37	61	50	42	37	48	42	37	47	41	37	46	41	37	35				35				
10	59	47	39	34	57	46	39	34	45	39	34	44	38	34	43	38	34	32				32				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	57692	57692	57692
5°	60076	57562	55142
10°	62082	56831	52454
15°	63657	55532	49728
20°	63780	53226	47261
25°	62703	49856	44817
30°	59349	46004	42717
35°	54110	41375	40106
40°	47057	36474	37038
45°	40365	31586	33902
50°	34478	27234	30453
55°	30219	23456	26456
60°	26908	20007	22251
65°	23874	16322	17752
70°	21178	12099	10089
75°	17657	6338	2990
80°	13904	1989	497
85°	9871	991	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	176.3	5.1
10°-20°	494.1	14.2
20°-30°	699.3	20.1
30°-40°	731.7	21.0
40°-50°	610.3	17.5
50°-60°	432.7	12.4
60°-70°	249.2	7.2
70°-80°	80.2	2.3
80°-90°	11.0	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°	1369.7	39.3
0°-40°	2101.4	60.3
0°-60°	3144.4	90.2
0°-90°	3484.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3484.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1871	1871	1871	1871	1871	
5°	1941	1916	1860	1804	1781	186
15°	1994	1913	1740	1602	1558	561
25°	1843	1706	1465	1348	1317	841
35°	1437	1312	1099	1040	1065	891
45°	926	850	724	733	777	717
55°	562	503	436	459	492	508
65°	327	274	224	224	243	327
75°	148	109	53	25	25	161
85°	28	14	3	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°	1870.9	1870.9	1870.9	1870.9	1870.9	1870.9	1870.9	1870.9	1870.9	1870.9	1870.9
2.5°	1910.0	1907.2	1904.4	1907.2	1904.4	1907.2	1904.4	1904.4	1901.6	1898.8	1898.8
5°	1940.8	1938.0	1938.0	1938.0	1935.2	1932.4	1932.4	1929.7	1924.1	1921.3	1915.6
7.5°	1960.4	1963.2	1963.2	1963.2	1957.6	1957.6	1952.0	1946.4	1940.8	1935.2	1926.9
10°	1982.7	1982.7	1979.9	1977.1	1971.5	1968.7	1966.0	1960.4	1952.0	1940.8	1932.4
12.5°	1991.2	1991.2	1988.4	1982.7	1979.9	1977.1	1974.3	1966.0	1954.8	1940.8	1929.7
15°	1994.0	1988.4	1985.5	1982.7	1977.1	1968.7	1968.7	1957.6	1943.6	1926.9	1912.8
17.5°	1971.5	1974.3	1968.7	1963.2	1954.8	1949.2	1940.8	1932.4	1915.6	1896.0	1882.1
20°	1943.6	1940.8	1938.0	1929.7	1918.4	1915.6	1907.2	1893.3	1879.3	1857.0	1837.3
22.5°	1898.8	1896.0	1890.5	1884.9	1873.7	1868.1	1859.6	1842.9	1823.4	1801.0	1778.6
25°	1842.9	1837.3	1828.9	1817.8	1809.4	1803.8	1792.5	1775.8	1753.4	1728.2	1705.9
27.5°	1753.4	1761.8	1756.2	1739.5	1731.1	1719.8	1717.0	1694.7	1675.2	1649.9	1624.8
30°	1666.8	1666.8	1658.3	1649.9	1636.0	1627.6	1616.4	1599.7	1580.0	1549.3	1529.8
32.5°	1557.7	1554.9	1543.7	1540.9	1529.8	1512.9	1510.1	1487.8	1468.1	1445.8	1420.7
35°	1437.4	1431.8	1420.7	1412.3	1406.7	1398.2	1389.9	1370.3	1350.8	1328.3	1311.6
37.5°	1300.4	1300.4	1297.6	1283.6	1278.1	1272.5	1264.0	1244.5	1233.3	1210.9	1194.1
40°	1169.0	1166.2	1157.8	1155.0	1149.4	1140.9	1135.4	1124.2	1107.4	1090.7	1073.8
42.5°	1040.3	1043.1	1031.9	1034.7	1023.6	1018.0	1015.2	998.3	990.0	973.2	959.2
45°	925.6	922.8	917.3	914.5	908.9	903.3	897.7	889.3	875.3	858.5	850.1
47.5°	819.4	811.1	811.1	808.2	805.4	794.2	791.4	783.0	774.7	757.9	746.6
50°	718.7	718.7	718.7	715.9	707.5	704.7	699.2	690.8	682.3	671.1	654.4
52.5°	637.6	637.6	637.6	634.8	623.7	620.9	618.1	606.8	595.7	587.3	576.1
55°	562.1	564.9	562.1	556.6	548.1	548.1	539.7	534.1	523.0	514.6	503.4
57.5°	497.8	497.8	492.1	489.3	483.8	481.0	475.4	469.8	455.8	447.5	433.5
60°	436.3	433.5	433.5	427.9	422.2	416.6	413.9	405.5	399.9	385.9	374.8
62.5°	380.3	380.3	374.8	374.8	363.6	363.6	360.8	352.3	343.9	330.0	324.4
65°	327.2	327.2	324.4	321.6	313.2	310.4	307.6	299.3	290.8	282.4	274.0
67.5°	279.6	279.6	274.0	271.2	265.7	262.9	257.3	251.7	243.3	234.9	226.6
70°	234.9	232.2	229.4	226.6	220.9	218.1	212.5	206.9	198.6	193.0	184.6
72.5°	190.2	190.2	187.4	181.8	179.0	176.2	173.4	167.8	159.5	151.0	145.4
75°	148.2	148.2	148.2	142.6	137.0	134.2	134.2	128.6	123.1	114.7	109.1
77.5°	114.7	111.9	109.1	109.1	103.5	100.7	97.8	95.0	86.7	83.9	78.3
80°	78.3	81.1	78.3	75.5	72.7	69.9	69.9	64.3	61.5	55.9	50.4
82.5°	53.2	50.4	50.4	47.6	47.6	44.8	44.8	39.2	36.4	33.6	30.7
85°	27.9	27.9	25.1	25.1	25.1	22.3	22.3	19.5	19.5	16.8	14.0
87.5°	8.4	8.4	8.4	8.4	8.4	8.4	8.4	8.4	5.6	5.6	5.6
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°	1870.9	1870.9	1870.9	1870.9	1870.9	1870.9	1870.9	1870.9	1870.9	1870.9	1870.9
2.5°	1896.0	1890.5	1887.7	1887.7	1884.9	1882.1	1879.3	1876.5	1870.9	1870.9	1865.3
5°	1910.0	1904.4	1901.6	1893.3	1887.7	1887.7	1876.5	1873.7	1865.3	1859.6	1854.2
7.5°	1921.3	1910.0	1901.6	1893.3	1887.7	1882.1	1870.9	1859.6	1848.5	1837.3	1831.7
10°	1921.3	1910.0	1896.0	1882.1	1876.5	1870.9	1857.0	1840.1	1826.1	1815.0	1801.0
12.5°	1915.6	1898.8	1882.1	1870.9	1859.6	1851.3	1834.5	1817.8	1801.0	1778.6	1767.4
15°	1898.8	1876.5	1859.6	1840.1	1831.7	1817.8	1803.8	1778.6	1759.0	1739.5	1725.4
17.5°	1865.3	1837.3	1817.8	1798.2	1784.2	1775.8	1753.4	1731.1	1708.7	1686.3	1669.6
20°	1815.0	1789.7	1767.4	1742.3	1731.1	1719.8	1691.9	1669.6	1647.1	1622.0	1605.3
22.5°	1753.4	1728.2	1697.5	1678.0	1661.1	1647.1	1622.0	1596.9	1574.4	1552.1	1529.8
25°	1678.0	1652.7	1624.8	1594.0	1582.8	1568.9	1540.9	1515.7	1490.6	1465.3	1445.8
27.5°	1596.9	1563.3	1540.9	1507.3	1496.2	1482.2	1451.4	1423.5	1401.0	1381.5	1359.1
30°	1498.9	1473.8	1443.0	1412.3	1401.0	1387.1	1361.9	1336.8	1314.4	1292.0	1269.7
32.5°	1392.6	1367.5	1336.8	1314.4	1297.6	1286.4	1261.2	1238.9	1216.5	1194.1	1174.5
35°	1280.9	1252.8	1230.5	1208.2	1194.1	1180.1	1155.0	1135.4	1118.6	1099.1	1079.5
37.5°	1166.2	1146.6	1124.2	1099.1	1085.1	1073.8	1054.3	1031.9	1018.0	1001.1	987.2
40°	1054.3	1031.9	1012.4	990.0	978.8	970.4	950.9	934.0	920.1	906.1	897.7
42.5°	939.6	920.1	900.5	886.5	878.2	869.7	855.7	836.2	827.8	813.7	805.4
45°	833.4	816.5	802.6	783.0	777.4	771.9	755.1	741.0	732.7	724.3	718.7
47.5°	732.7	721.5	704.7	693.6	685.2	679.5	668.3	657.2	648.8	643.2	637.6
50°	646.0	632.0	620.9	609.6	604.0	595.7	584.5	578.9	573.3	567.7	567.7
52.5°	564.9	550.9	539.7	531.3	525.7	520.2	511.8	509.0	503.4	503.4	500.6
55°	489.3	481.0	469.8	458.6	455.8	453.0	447.5	441.9	439.1	436.3	439.1
57.5°	425.0	416.6	405.5	397.1	394.3	391.5	388.7	383.1	380.3	380.3	380.3
60°	366.4	357.9	349.5	341.2	341.2	335.6	332.8	330.0	327.2	324.4	324.4
62.5°	313.2	304.9	296.5	290.8	288.0	285.2	279.6	276.8	274.0	274.0	271.2
65°	265.7	254.5	251.7	243.3	240.5	237.7	234.9	229.4	226.6	223.7	220.9
67.5°	218.1	212.5	204.1	198.6	195.8	193.0	190.2	184.6	181.8	179.0	173.4
70°	176.2	170.6	164.9	159.5	156.6	153.8	148.2	142.6	139.8	134.2	125.9
72.5°	137.0	131.4	125.9	120.3	117.5	114.7	109.1	103.5	97.8	92.2	86.7
75°	103.5	97.8	89.5	83.9	81.1	81.1	72.7	67.1	61.5	53.2	47.6
77.5°	72.7	64.3	61.5	55.9	53.2	47.6	42.0	36.4	30.7	27.9	22.3
80°	47.6	42.0	36.4	33.6	30.7	27.9	25.1	19.5	14.0	11.2	8.4
82.5°	27.9	25.1	22.3	19.5	16.8	14.0	11.2	11.2	8.4	5.6	2.8
85°	14.0	11.2	8.4	8.4	5.6	5.6	5.6	2.8	2.8	2.8	2.8
87.5°	5.6	2.8	2.8	2.8	2.8	2.8	2.8	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°	1870.9	1870.9	1870.9	1870.9	1870.9	1870.9	1870.9	1870.9	1870.9	1870.9	1870.9
2.5°	1862.5	1859.6	1857.0	1854.2	1854.2	1848.5	1848.5	1845.7	1840.1	1837.3	1837.3
5°	1845.7	1837.3	1831.7	1828.9	1826.1	1817.8	1815.0	1809.4	1803.8	1798.2	1795.4
7.5°	1820.6	1806.6	1801.0	1798.2	1789.7	1781.4	1775.8	1767.4	1759.0	1750.7	1747.9
10°	1789.7	1775.8	1761.8	1756.2	1747.9	1742.3	1731.1	1719.8	1711.5	1703.1	1694.7
12.5°	1750.7	1733.9	1719.8	1714.3	1705.9	1694.7	1678.0	1672.4	1658.3	1652.7	1641.6
15°	1705.9	1686.3	1672.4	1664.0	1655.5	1638.8	1627.6	1616.4	1602.5	1596.9	1585.6
17.5°	1649.9	1627.6	1613.6	1605.3	1599.7	1585.6	1568.9	1554.9	1540.9	1535.2	1526.9
20°	1582.8	1568.9	1549.3	1540.9	1535.2	1518.5	1501.7	1496.2	1485.0	1473.8	1465.3
22.5°	1507.3	1493.4	1473.8	1465.3	1462.5	1448.6	1434.6	1426.2	1417.9	1409.5	1401.0
25°	1429.0	1412.3	1395.4	1389.9	1384.3	1373.1	1361.9	1356.3	1348.0	1342.4	1336.8
27.5°	1345.2	1328.3	1314.4	1306.0	1300.4	1292.0	1286.4	1280.9	1275.3	1269.7	1266.8
30°	1255.6	1238.9	1227.7	1222.1	1216.5	1213.7	1205.4	1202.6	1199.7	1194.1	1196.9
32.5°	1166.2	1152.2	1140.9	1132.6	1132.6	1127.0	1124.2	1124.2	1121.4	1121.4	1121.4
35°	1068.2	1059.9	1051.5	1048.7	1045.9	1043.1	1040.3	1043.1	1040.3	1043.1	1045.9
37.5°	978.8	970.4	964.8	962.0	959.2	962.0	959.2	959.2	962.0	967.6	970.4
40°	886.5	881.0	875.3	878.2	875.3	875.3	875.3	883.8	886.5	889.3	892.1
42.5°	799.8	794.2	791.4	791.4	794.2	791.4	797.0	799.8	805.4	813.7	819.4
45°	715.9	713.1	713.1	715.9	713.1	718.7	718.7	724.3	732.7	738.3	743.8
47.5°	637.6	637.6	637.6	640.4	640.4	643.2	648.8	651.6	657.2	662.8	668.3
50°	564.9	567.7	570.5	570.5	570.5	576.1	581.7	584.5	587.3	590.1	598.4
52.5°	500.6	503.4	503.4	506.2	509.0	511.8	514.6	520.2	523.0	528.5	531.3
55°	439.1	439.1	444.7	447.5	447.5	447.5	453.0	453.0	458.6	461.4	467.0
57.5°	380.3	383.1	383.1	385.9	385.9	388.7	391.5	394.3	397.1	399.9	402.7
60°	324.4	324.4	324.4	327.2	330.0	332.8	330.0	335.6	335.6	341.2	343.9
62.5°	271.2	274.0	274.0	274.0	274.0	274.0	274.0	276.8	279.6	282.4	285.2
65°	220.9	220.9	220.9	218.1	220.9	218.1	220.9	223.7	223.7	226.6	229.4
67.5°	170.6	170.6	164.9	164.9	167.8	167.8	167.8	167.8	164.9	170.6	170.6
70°	123.1	120.3	117.5	114.7	114.7	111.9	111.9	109.1	109.1	109.1	109.1
72.5°	81.1	75.5	69.9	67.1	64.3	64.3	58.7	55.9	58.7	58.7	58.7
75°	42.0	36.4	33.6	30.7	27.9	27.9	25.1	25.1	25.1	25.1	25.1
77.5°	16.8	14.0	11.2	11.2	8.4	8.4	8.4	8.4	8.4	8.4	8.4
80°	5.6	5.6	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
82.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
85°	2.8	0.0	0.0	2.8	0.0	2.8	2.8	2.8	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: P584861

CATALOG NUMBER: HC850D010-HM82555927-81WWBB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1870.9	1870.9	1870.9	1870.9	1870.9	1870.9	1870.9	1870.9
2.5°	1834.5	1834.5	1831.7	1834.5	1828.9	1831.7	1828.9	1828.9
5°	1792.5	1787.1	1787.1	1787.1	1784.2	1784.2	1781.4	1781.4
7.5°	1742.3	1739.5	1736.7	1733.9	1731.1	1728.2	1728.2	1728.2
10°	1691.9	1686.3	1686.3	1683.5	1678.0	1675.2	1675.2	1675.2
12.5°	1633.2	1630.4	1627.6	1627.6	1616.4	1619.2	1616.4	1616.4
15°	1577.2	1574.4	1574.4	1566.1	1560.5	1560.5	1560.5	1557.7
17.5°	1518.5	1515.7	1512.9	1507.3	1501.7	1501.7	1498.9	1501.7
20°	1457.0	1454.2	1448.6	1448.6	1445.8	1443.0	1437.4	1440.2
22.5°	1395.4	1389.9	1387.1	1387.1	1384.3	1384.3	1378.7	1378.7
25°	1331.1	1328.3	1325.5	1328.3	1322.7	1322.7	1317.2	1317.2
27.5°	1264.0	1261.2	1261.2	1261.2	1258.4	1261.2	1258.4	1258.4
30°	1196.9	1196.9	1194.1	1194.1	1196.9	1194.1	1196.9	1199.7
32.5°	1124.2	1124.2	1127.0	1127.0	1129.8	1129.8	1129.8	1129.8
35°	1048.7	1054.3	1054.3	1057.1	1059.9	1062.7	1062.7	1065.4
37.5°	978.8	981.6	984.4	987.2	992.8	992.8	992.8	992.8
40°	903.3	906.1	911.7	908.9	920.1	922.8	920.1	920.1
42.5°	825.0	830.6	833.4	839.0	841.8	847.4	850.1	850.1
45°	752.3	755.1	760.7	766.3	769.1	777.4	777.4	777.4
47.5°	676.7	682.3	685.2	690.8	693.6	702.0	704.7	702.0
50°	604.0	609.6	615.2	615.2	623.7	626.5	632.0	634.8
52.5°	534.1	536.9	542.5	545.3	550.9	556.6	559.4	562.1
55°	467.0	469.8	475.4	475.4	483.8	486.7	492.1	492.1
57.5°	405.5	408.3	413.9	411.1	416.6	422.2	422.2	419.4
60°	346.7	346.7	346.7	352.3	355.1	357.9	360.8	360.8
62.5°	285.2	290.8	293.7	293.7	296.5	299.3	299.3	296.5
65°	229.4	234.9	237.7	237.7	240.5	240.5	240.5	243.3
67.5°	173.4	173.4	173.4	176.2	173.4	173.4	173.4	173.4
70°	109.1	109.1	109.1	109.1	106.3	109.1	109.1	111.9
72.5°	58.7	58.7	58.7	58.7	58.7	58.7	58.7	58.7
75°	25.1	25.1	25.1	27.9	25.1	25.1	25.1	25.1
77.5°	11.2	8.4	11.2	11.2	8.4	8.4	8.4	8.4
80°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
82.5°	2.8	2.8	2.8	2.8	2.8	2.8	2.8	2.8
85°	0.0	2.8	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



Report Generated By 670245859 / DESKTOP-HRDQ47P





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













(END OF REPORT)