

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: P584591

Luminaire Tested: **HC840D010-HM82555927-81WWWB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584591
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: HC840D010-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: 3532.1 lumens
Efficiency: N/A
Efficacy: 86.1 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

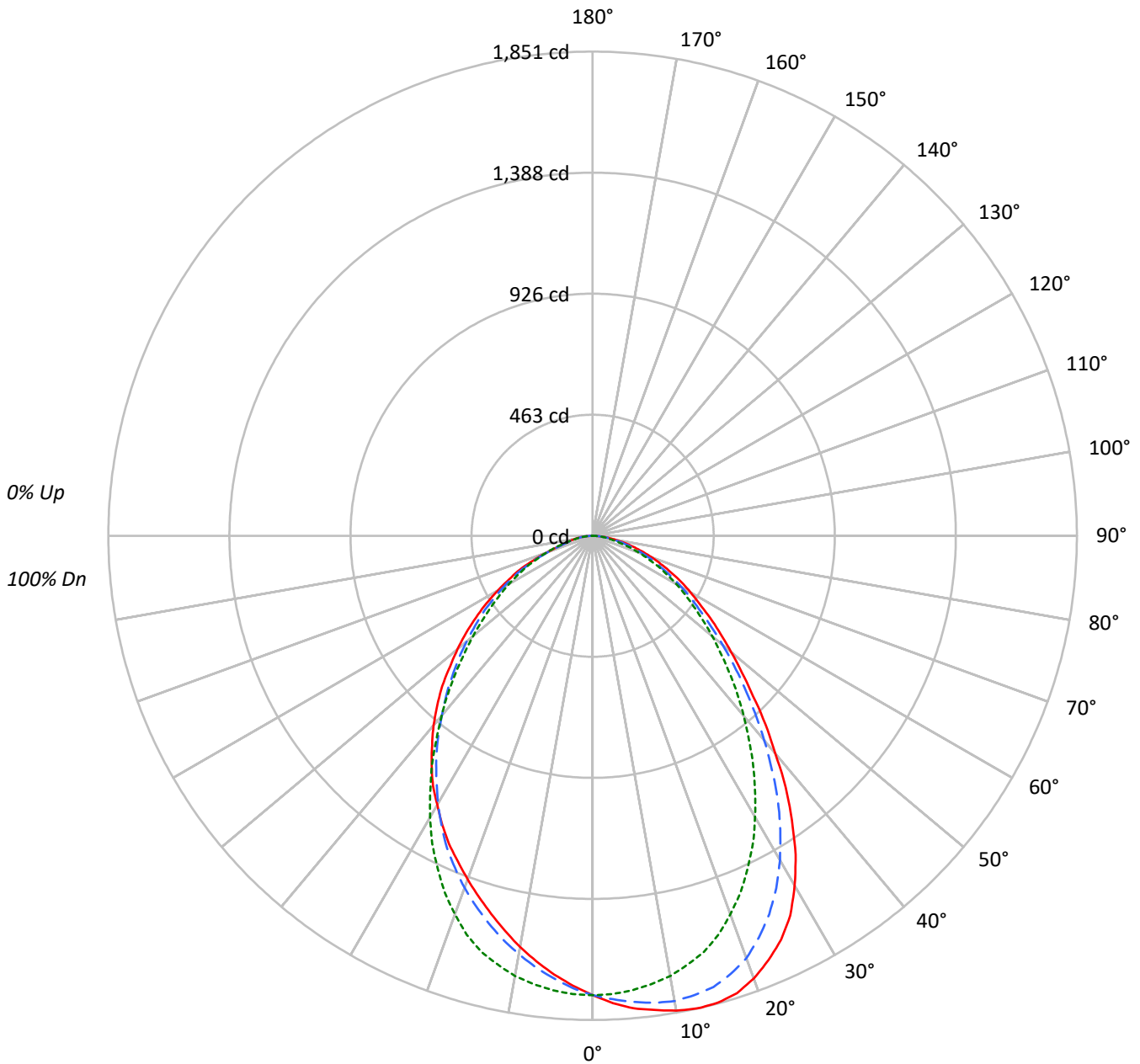
Input Watts (W): 41
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	54155	54155	54155
5°	56138	53975	52121
10°	57721	53503	49990
15°	59009	52560	47781
20°	59104	50506	45840
25°	57967	47698	44218
30°	54980	44231	42279
35°	49958	40287	40381
40°	43684	36148	38060
45°	37857	32201	35463
50°	33149	28601	32310
55°	29504	25349	29235
60°	26618	22763	25693
65°	24027	20022	22386
70°	21584	16869	16643
75°	19027	13368	12474
80°	15947	11081	11969
85°	12348	9730	10614



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	165.7	4.7
10°-20°	466.6	13.2
20°-30°	666.9	18.9
30°-40°	708.6	20.1
40°-50°	610.1	17.3
50°-60°	456.1	12.9
60°-70°	290.9	8.2
70°-80°	132.4	3.7
80°-90°	34.8	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°	1299.2	36.8
0°-40°	2007.8	56.8
0°-60°	3074.0	87.0
0°-90°	3532.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3532.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1756	1756	1756	1756	1756	
5°	1814	1789	1744	1699	1684	174
15°	1848	1786	1646	1534	1497	521
25°	1704	1596	1402	1317	1300	780
35°	1327	1235	1070	1043	1073	826
45°	868	821	738	758	813	675
55°	549	504	472	511	544	494
65°	329	292	274	287	307	328
75°	160	137	112	102	105	170
85°	35	30	28	30	30	42
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°	1756.2	1756.2	1756.2	1756.2	1756.2	1756.2	1756.2	1756.2	1756.2	1756.2	1756.2
2.5°	1788.6	1783.6	1786.1	1783.6	1786.1	1786.1	1781.1	1781.1	1781.1	1781.1	1773.6
5°	1813.6	1811.1	1811.1	1808.6	1806.1	1808.6	1806.1	1803.6	1798.6	1796.1	1788.6
7.5°	1828.6	1828.6	1828.6	1828.6	1826.1	1823.6	1821.1	1816.1	1811.1	1806.1	1801.1
10°	1843.4	1845.9	1843.4	1840.9	1838.4	1833.4	1830.9	1826.1	1818.6	1811.1	1806.1
12.5°	1850.9	1850.9	1848.4	1848.4	1843.4	1840.9	1833.4	1826.1	1818.6	1811.1	1798.6
15°	1848.4	1848.4	1845.9	1843.4	1835.9	1833.4	1828.6	1821.1	1808.6	1798.6	1786.1
17.5°	1833.4	1830.9	1826.1	1826.1	1816.1	1813.6	1808.6	1798.6	1786.1	1771.1	1756.2
20°	1801.1	1801.1	1798.6	1796.1	1786.1	1778.6	1773.6	1761.2	1751.2	1733.7	1718.7
22.5°	1756.2	1761.2	1756.2	1751.2	1738.7	1736.2	1728.7	1713.7	1698.7	1678.9	1661.4
25°	1703.7	1701.2	1698.7	1693.8	1683.8	1678.9	1668.9	1653.9	1638.9	1616.5	1596.5
27.5°	1636.4	1626.5	1626.5	1616.5	1609.0	1601.5	1596.5	1581.5	1561.6	1544.1	1519.2
30°	1544.1	1546.6	1534.1	1531.6	1519.2	1514.2	1504.2	1489.3	1471.8	1451.8	1431.8
32.5°	1444.3	1436.8	1436.8	1426.9	1416.9	1409.4	1406.9	1389.4	1374.4	1354.6	1334.6
35°	1327.1	1327.1	1319.6	1317.1	1307.1	1302.1	1294.7	1284.7	1267.2	1249.7	1234.7
37.5°	1212.4	1207.4	1204.9	1199.9	1192.4	1184.9	1184.9	1167.4	1164.9	1145.0	1125.0
40°	1085.2	1090.2	1085.2	1077.7	1075.2	1070.2	1067.7	1057.7	1050.2	1032.7	1020.3
42.5°	977.8	972.8	972.8	970.3	960.4	960.4	955.5	950.5	938.0	933.0	918.0
45°	868.1	873.1	865.6	868.1	858.1	858.1	858.1	848.1	838.1	830.7	820.7
47.5°	773.3	775.8	775.8	768.3	765.8	765.8	760.9	755.9	748.4	738.4	730.9
50°	691.0	693.5	688.5	686.0	681.0	678.5	678.5	668.5	663.5	653.5	648.6
52.5°	616.2	616.2	613.7	613.7	606.2	606.2	601.2	593.7	588.7	583.7	571.2
55°	548.8	548.8	546.3	543.8	543.8	536.3	533.8	526.3	521.3	511.3	503.8
57.5°	484.0	486.5	484.0	481.5	479.0	476.5	471.5	464.0	459.0	451.5	446.5
60°	431.6	431.6	429.1	426.6	421.6	419.1	416.6	411.6	404.1	399.1	391.6
62.5°	381.6	379.1	376.6	374.1	369.1	369.1	364.3	359.3	351.8	346.8	341.8
65°	329.3	329.3	326.8	326.8	324.3	319.3	316.8	314.3	304.3	301.8	291.9
67.5°	281.9	284.4	279.4	279.4	274.4	274.4	271.9	264.4	261.9	256.9	251.9
70°	239.4	239.4	239.4	236.9	232.0	229.6	227.1	222.1	219.6	214.6	209.6
72.5°	197.1	197.1	194.6	194.6	192.1	189.6	187.1	182.1	182.1	177.1	172.1
75°	159.7	159.7	157.2	154.7	152.2	152.2	149.7	147.2	142.2	139.7	137.2
77.5°	122.2	122.2	122.2	119.7	117.2	117.2	117.2	112.2	107.2	107.2	104.7
80°	89.8	89.8	87.3	87.3	84.8	84.8	84.8	82.3	79.8	77.4	74.9
82.5°	59.9	59.9	59.9	59.9	57.4	57.4	57.4	54.9	52.4	52.4	52.4
85°	34.9	34.9	34.9	34.9	32.5	32.5	32.5	32.5	32.5	30.0	30.0
87.5°	15.0	12.5	15.0	12.5	15.0	12.5	15.0	12.5	12.5	12.5	12.5
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°	1756.2	1756.2	1756.2	1756.2	1756.2	1756.2	1756.2	1756.2	1756.2	1756.2	1756.2
2.5°	1776.1	1773.6	1771.1	1768.6	1768.6	1766.1	1761.2	1758.7	1756.2	1753.7	1753.7
5°	1786.1	1783.6	1778.6	1773.6	1771.1	1766.1	1761.2	1756.2	1751.2	1743.7	1741.2
7.5°	1793.6	1786.1	1781.1	1771.1	1768.6	1763.6	1756.2	1748.7	1738.7	1728.7	1721.2
10°	1793.6	1783.6	1776.1	1763.6	1758.7	1753.7	1743.7	1731.2	1718.7	1708.7	1696.2
12.5°	1788.6	1776.1	1763.6	1751.2	1743.7	1736.2	1721.2	1708.7	1693.8	1678.9	1668.9
15°	1771.1	1756.2	1741.2	1726.2	1718.7	1708.7	1693.8	1676.4	1661.4	1646.4	1629.0
17.5°	1738.7	1723.7	1706.2	1688.8	1678.9	1671.4	1648.9	1636.4	1614.0	1599.0	1584.0
20°	1696.2	1678.9	1656.4	1638.9	1626.5	1619.0	1601.5	1579.0	1561.6	1539.1	1524.2
22.5°	1641.4	1619.0	1596.5	1579.0	1566.5	1556.6	1534.1	1511.7	1496.7	1476.8	1459.3
25°	1576.5	1554.1	1531.6	1506.7	1494.3	1484.3	1464.3	1444.3	1424.4	1401.9	1386.9
27.5°	1499.2	1474.3	1454.3	1431.8	1419.4	1404.4	1381.9	1362.1	1342.1	1327.1	1307.1
30°	1414.4	1386.9	1367.0	1344.6	1332.1	1319.6	1297.1	1277.2	1259.7	1242.2	1232.2
32.5°	1312.1	1292.2	1272.2	1249.7	1239.7	1232.2	1209.9	1189.9	1169.9	1155.0	1147.5
35°	1214.9	1192.4	1174.9	1155.0	1142.5	1135.0	1115.0	1097.5	1087.7	1070.2	1060.2
37.5°	1112.5	1095.2	1075.2	1055.2	1047.7	1040.2	1025.3	1007.8	992.8	980.3	975.3
40°	1005.3	990.3	972.8	960.4	953.0	945.5	933.0	920.5	910.5	898.0	893.1
42.5°	903.0	893.1	878.1	863.1	855.6	853.1	838.1	828.2	823.2	818.2	813.2
45°	810.7	795.8	785.8	775.8	768.3	763.4	755.9	748.4	743.4	738.4	733.4
47.5°	720.9	708.4	698.4	691.0	683.5	681.0	676.0	668.5	663.5	663.5	663.5
50°	638.6	628.7	618.7	613.7	611.2	606.2	601.2	598.7	596.2	596.2	596.2
52.5°	566.2	556.3	548.8	543.8	543.8	538.8	533.8	531.3	531.3	531.3	531.3
55°	498.8	491.5	486.5	481.5	476.5	474.0	474.0	474.0	471.5	471.5	474.0
57.5°	439.0	434.0	426.6	421.6	419.1	419.1	416.6	414.1	416.6	419.1	421.6
60°	384.1	379.1	376.6	369.1	369.1	369.1	366.6	366.6	366.6	369.1	371.6
62.5°	334.3	331.8	326.8	324.3	321.8	321.8	319.3	319.3	319.3	319.3	321.8
65°	289.4	284.4	279.4	279.4	279.4	276.9	276.9	271.9	274.4	274.4	271.9
67.5°	246.9	241.9	239.4	236.9	234.4	234.4	232.0	229.6	227.1	227.1	227.1
70°	207.1	202.1	202.1	197.1	197.1	194.6	192.1	192.1	189.6	187.1	184.6
72.5°	167.1	164.7	162.2	159.7	159.7	159.7	157.2	154.7	152.2	149.7	144.7
75°	132.2	132.2	127.2	124.7	124.7	122.2	119.7	117.2	114.7	112.2	109.7
77.5°	102.2	99.7	94.8	92.3	92.3	92.3	89.8	87.3	84.8	82.3	79.8
80°	74.9	72.4	69.9	67.4	67.4	67.4	64.9	64.9	62.4	62.4	62.4
82.5°	49.9	49.9	47.4	47.4	47.4	47.4	44.9	44.9	44.9	44.9	44.9
85°	30.0	30.0	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5	27.5
87.5°	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
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°	1756.2	1756.2	1756.2	1756.2	1756.2	1756.2	1756.2	1756.2	1756.2	1756.2	1756.2
2.5°	1748.7	1748.7	1743.7	1741.2	1738.7	1741.2	1736.2	1733.7	1731.2	1731.2	1728.7
5°	1733.7	1731.2	1721.2	1718.7	1716.2	1713.7	1708.7	1703.7	1698.7	1696.2	1693.8
7.5°	1713.7	1706.2	1696.2	1693.8	1691.3	1683.8	1676.4	1671.4	1663.9	1661.4	1656.4
10°	1686.3	1676.4	1668.9	1661.4	1656.4	1648.9	1641.4	1633.9	1624.0	1621.5	1614.0
12.5°	1653.9	1641.4	1626.5	1624.0	1616.5	1606.5	1596.5	1589.0	1581.5	1576.5	1569.0
15°	1614.0	1601.5	1586.5	1579.0	1571.5	1564.0	1551.6	1541.6	1534.1	1526.7	1519.2
17.5°	1566.5	1551.6	1539.1	1531.6	1526.7	1514.2	1504.2	1491.8	1484.3	1476.8	1469.3
20°	1509.2	1496.7	1479.3	1471.8	1469.3	1459.3	1446.8	1441.8	1431.8	1424.4	1419.4
22.5°	1444.3	1431.8	1416.9	1411.9	1401.9	1396.9	1384.4	1379.4	1374.4	1367.0	1364.5
25°	1372.0	1359.6	1347.1	1344.6	1337.1	1332.1	1324.6	1317.1	1317.1	1309.6	1309.6
27.5°	1297.1	1284.7	1274.7	1269.7	1267.2	1262.2	1254.7	1252.2	1249.7	1247.2	1247.2
30°	1217.4	1202.4	1197.4	1194.9	1192.4	1187.4	1184.9	1179.9	1182.4	1184.9	1182.4
32.5°	1132.5	1127.5	1117.5	1112.5	1115.0	1112.5	1107.5	1112.5	1110.0	1115.0	1117.5
35°	1050.2	1045.2	1040.2	1040.2	1035.2	1035.2	1035.2	1037.7	1042.7	1045.2	1050.2
37.5°	970.3	962.9	960.4	958.0	960.4	960.4	960.4	965.3	970.3	975.3	982.8
40°	885.6	880.6	880.6	880.6	880.6	888.1	885.6	890.6	895.6	903.0	910.5
42.5°	805.7	805.7	808.2	808.2	808.2	808.2	813.2	820.7	828.2	835.6	843.1
45°	730.9	730.9	730.9	735.9	735.9	738.4	748.4	753.4	758.4	765.8	773.3
47.5°	661.0	661.0	663.5	666.0	668.5	673.5	678.5	686.0	693.5	698.4	705.9
50°	596.2	598.7	603.7	608.7	608.7	611.2	618.7	623.7	628.7	636.1	638.6
52.5°	533.8	538.8	543.8	546.3	548.8	553.8	556.3	563.8	566.2	573.7	576.2
55°	476.5	479.0	486.5	489.0	489.0	494.0	498.8	503.8	511.3	511.3	516.3
57.5°	424.1	426.6	431.6	434.0	431.6	439.0	441.5	446.5	449.0	454.0	456.5
60°	371.6	376.6	379.1	379.1	381.6	384.1	389.1	389.1	394.1	399.1	399.1
62.5°	321.8	324.3	326.8	329.3	331.8	329.3	336.8	336.8	341.8	344.3	349.3
65°	274.4	276.9	276.9	279.4	279.4	281.9	281.9	284.4	286.9	291.9	294.4
67.5°	227.1	227.1	227.1	229.6	227.1	229.6	229.6	232.0	232.0	236.9	239.4
70°	184.6	182.1	179.6	179.6	179.6	179.6	177.1	179.6	179.6	182.1	182.1
72.5°	142.2	139.7	137.2	134.7	134.7	132.2	129.7	132.2	132.2	134.7	134.7
75°	107.2	102.2	102.2	102.2	99.7	99.7	99.7	102.2	102.2	102.2	104.7
77.5°	79.8	79.8	77.4	77.4	77.4	79.8	79.8	82.3	82.3	82.3	82.3
80°	59.9	62.4	62.4	62.4	62.4	64.9	64.9	64.9	64.9	67.4	67.4
82.5°	44.9	44.9	44.9	44.9	47.4	47.4	47.4	47.4	47.4	47.4	47.4
85°	27.5	30.0	30.0	27.5	30.0	30.0	30.0	30.0	30.0	30.0	30.0
87.5°	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
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: P584591

CATALOG NUMBER: HC840D010-HM82555927-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1756.2	1756.2	1756.2	1756.2	1756.2	1756.2	1756.2	1756.2
2.5°	1726.2	1726.2	1726.2	1726.2	1723.7	1723.7	1723.7	1721.2
5°	1688.8	1688.8	1688.8	1683.8	1686.3	1686.3	1681.4	1683.8
7.5°	1651.4	1648.9	1646.4	1646.4	1643.9	1641.4	1638.9	1641.4
10°	1609.0	1601.5	1601.5	1599.0	1599.0	1594.0	1594.0	1596.5
12.5°	1561.6	1556.6	1556.6	1554.1	1551.6	1549.1	1546.6	1546.6
15°	1514.2	1509.2	1506.7	1504.2	1501.7	1496.7	1499.2	1496.7
17.5°	1466.8	1459.3	1459.3	1456.8	1454.3	1449.3	1449.3	1446.8
20°	1411.9	1409.4	1404.4	1406.9	1404.4	1399.4	1396.9	1396.9
22.5°	1357.1	1357.1	1354.6	1354.6	1352.1	1349.6	1347.1	1347.1
25°	1304.6	1302.1	1304.6	1304.6	1297.1	1297.1	1297.1	1299.6
27.5°	1244.7	1247.2	1244.7	1244.7	1244.7	1244.7	1247.2	1244.7
30°	1184.9	1184.9	1184.9	1187.4	1192.4	1189.9	1189.9	1187.4
32.5°	1120.0	1122.5	1122.5	1125.0	1127.5	1132.5	1132.5	1135.0
35°	1055.2	1060.2	1062.7	1060.2	1067.7	1067.7	1072.7	1072.7
37.5°	987.8	990.3	995.3	997.8	1002.8	1005.3	1007.8	1007.8
40°	915.5	925.5	928.0	930.5	938.0	938.0	940.5	945.5
42.5°	848.1	858.1	860.6	863.1	868.1	875.6	873.1	878.1
45°	783.3	790.8	793.3	795.8	803.2	805.7	805.7	813.2
47.5°	713.4	718.4	720.9	725.9	730.9	735.9	740.9	738.4
50°	643.6	651.0	656.0	658.5	666.0	668.5	671.0	673.5
52.5°	581.2	586.2	588.7	591.2	598.7	601.2	603.7	608.7
55°	521.3	523.8	528.8	526.3	533.8	536.3	538.8	543.8
57.5°	461.5	464.0	466.5	466.5	471.5	476.5	479.0	481.5
60°	404.1	409.1	411.6	411.6	411.6	416.6	416.6	416.6
62.5°	351.8	351.8	354.3	354.3	359.3	359.3	359.3	359.3
65°	296.9	299.3	301.8	301.8	306.8	304.3	309.3	306.8
67.5°	239.4	239.4	244.4	244.4	241.9	244.4	244.4	244.4
70°	182.1	182.1	184.6	184.6	184.6	184.6	184.6	184.6
72.5°	134.7	134.7	134.7	137.2	134.7	134.7	137.2	134.7
75°	104.7	104.7	104.7	104.7	104.7	104.7	104.7	104.7
77.5°	82.3	82.3	84.8	84.8	84.8	84.8	84.8	84.8
80°	67.4	67.4	67.4	67.4	69.9	67.4	67.4	67.4
82.5°	49.9	47.4	49.9	47.4	49.9	49.9	49.9	49.9
85°	30.0	30.0	30.0	30.0	30.0	30.0	30.0	30.0
87.5°	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
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)