

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: P584640

Luminaire Tested: **HC840D010-HM82555940-81WWBB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584640
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: HC840D010-HM82555940-81WWBB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, WHITE BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 4000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4113.0 lumens
Efficiency: N/A
Efficacy: 100.3 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

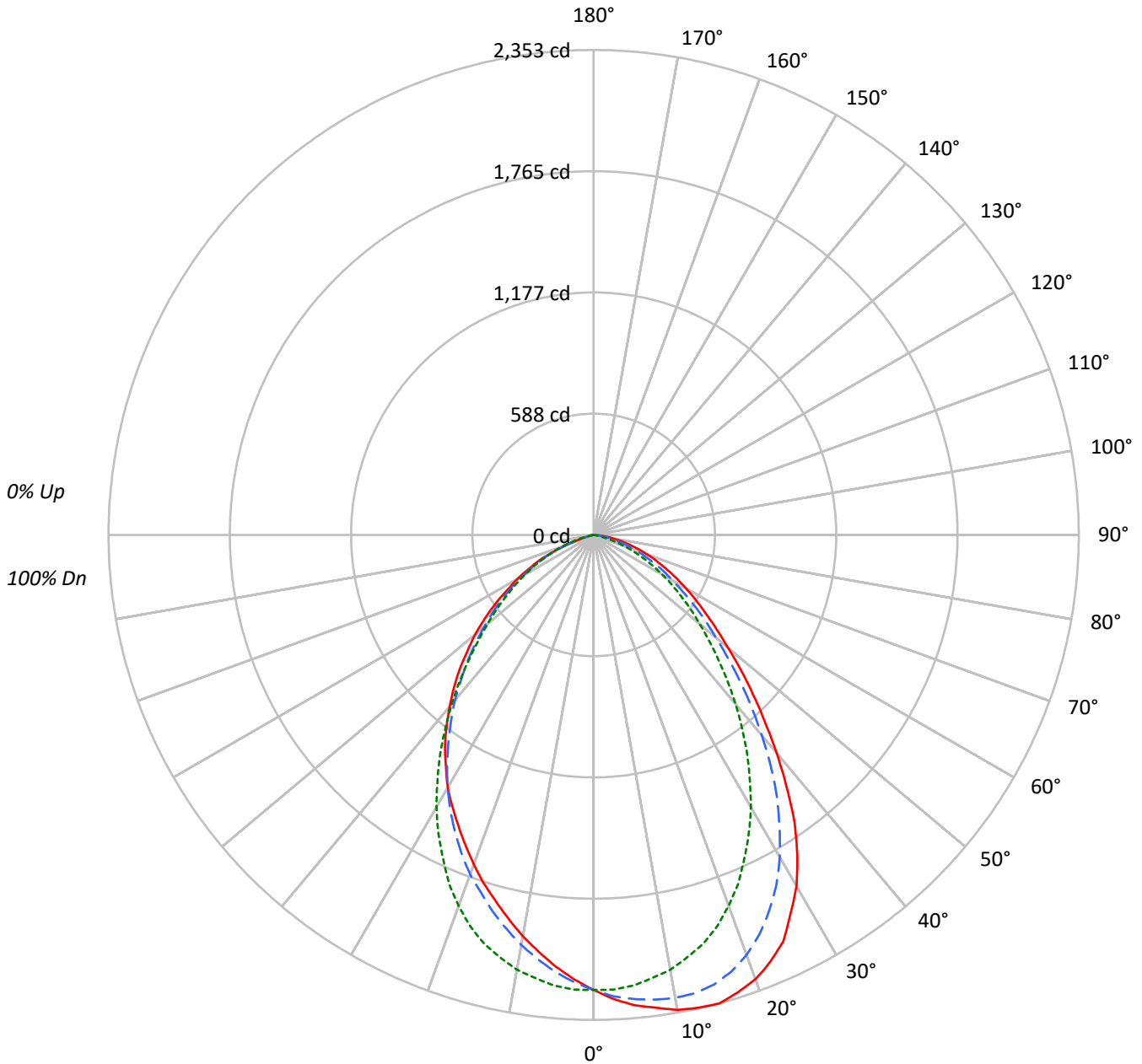
Input Watts (W): 41
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P584640

CATALOG NUMBER: HC840D010-HM82555940-81WWBB

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	68087	68087	68087
5°	70903	67944	65081
10°	73273	67073	61907
15°	75127	65540	58689
20°	75278	62822	55779
25°	74006	58845	52894
30°	70046	54297	50419
35°	63863	48828	47338
40°	55538	43052	43712
45°	47643	37281	40016
50°	40691	32142	35941
55°	35665	27682	31235
60°	31755	23608	26260
65°	28179	19270	20948
70°	25001	14281	11901
75°	20838	7470	3550
80°	16426	2344	586
85°	11676	1168	0



TEST NUMBER: P584640

CATALOG NUMBER: HC840D010-HM82555940-81WWBB

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	208.1	5.1
10°-20°	583.2	14.2
20°-30°	825.4	20.1
30°-40°	863.5	21.0
40°-50°	720.3	17.5
50°-60°	510.8	12.4
60°-70°	294.2	7.2
70°-80°	94.7	2.3
80°-90°	13.0	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°	1616.6	39.3
0°-40°	2480.2	60.3
0°-60°	3711.2	90.2
0°-90°	4113.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4113.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2208	2208	2208	2208	2208	
5°	2291	2261	2195	2129	2102	220
15°	2353	2258	2053	1891	1838	662
25°	2175	2013	1730	1591	1555	993
35°	1696	1548	1297	1228	1258	1052
45°	1092	1003	855	865	918	847
55°	663	594	515	541	581	599
65°	386	323	264	264	287	386
75°	175	129	63	30	30	190
85°	33	16	3	0	0	41
90°	0	0	0	0	0	



TEST NUMBER: P584640

CATALOG NUMBER: HC840D010-HM82555940-81WWBB

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0
2.5°	2254.3	2251.0	2247.7	2251.0	2247.7	2251.0	2247.7	2247.7	2244.5	2241.1	2241.1
5°	2290.6	2287.3	2287.3	2287.3	2284.0	2280.8	2280.8	2277.4	2270.8	2267.5	2260.9
7.5°	2313.7	2317.0	2317.0	2317.0	2310.4	2310.4	2303.8	2297.2	2290.6	2284.0	2274.1
10°	2340.1	2340.1	2336.8	2333.5	2326.9	2323.6	2320.4	2313.7	2303.8	2290.6	2280.8
12.5°	2350.0	2350.0	2346.7	2340.1	2336.8	2333.5	2330.3	2320.4	2307.2	2290.6	2277.4
15°	2353.3	2346.7	2343.5	2340.1	2333.5	2323.6	2323.6	2310.4	2294.0	2274.1	2257.7
17.5°	2326.9	2330.3	2323.6	2317.0	2307.2	2300.5	2290.6	2280.8	2260.9	2237.8	2221.3
20°	2294.0	2290.6	2287.3	2277.4	2264.2	2260.9	2251.0	2234.5	2218.0	2191.6	2168.5
22.5°	2241.1	2237.8	2231.2	2224.6	2211.4	2204.8	2195.0	2175.1	2152.0	2125.6	2099.2
25°	2175.1	2168.5	2158.5	2145.3	2135.5	2128.9	2115.7	2095.8	2069.5	2039.8	2013.4
27.5°	2069.5	2079.4	2072.7	2053.0	2043.1	2029.9	2026.6	2000.2	1977.1	1947.3	1917.7
30°	1967.2	1967.2	1957.3	1947.3	1930.9	1920.9	1907.7	1887.9	1864.8	1828.6	1805.5
32.5°	1838.4	1835.1	1821.9	1818.7	1805.5	1785.6	1782.4	1756.0	1732.8	1706.5	1676.7
35°	1696.5	1689.9	1676.7	1666.8	1660.2	1650.3	1640.4	1617.3	1594.2	1567.8	1548.0
37.5°	1534.7	1534.7	1531.5	1515.0	1508.3	1501.8	1491.9	1468.8	1455.6	1429.2	1409.3
40°	1379.7	1376.4	1366.5	1363.1	1356.6	1346.6	1340.1	1326.8	1307.1	1287.2	1267.5
42.5°	1227.8	1231.2	1218.0	1221.2	1208.0	1201.4	1198.1	1178.3	1168.5	1148.6	1132.0
45°	1092.5	1089.2	1082.5	1079.3	1072.7	1066.1	1059.5	1049.6	1033.0	1013.3	1003.4
47.5°	967.1	957.1	957.1	953.9	950.6	937.4	934.0	924.2	914.3	894.4	881.3
50°	848.2	848.2	848.2	844.9	835.0	831.8	825.1	815.3	805.4	792.2	772.3
52.5°	752.6	752.6	752.6	749.2	736.0	732.7	729.5	716.3	703.1	693.2	680.0
55°	663.4	666.8	663.4	656.8	646.9	646.9	637.0	630.5	617.3	607.3	594.2
57.5°	587.5	587.5	581.0	577.6	571.0	567.7	561.1	554.5	538.0	528.1	511.6
60°	514.9	511.6	511.6	505.0	498.4	491.8	488.5	478.6	472.0	455.5	442.3
62.5°	448.9	448.9	442.3	442.3	429.1	429.1	425.8	415.9	406.0	389.5	382.8
65°	386.2	386.2	382.8	379.6	369.6	366.4	363.1	353.2	343.3	333.3	323.4
67.5°	330.1	330.1	323.4	320.1	313.6	310.2	303.7	297.0	287.1	277.3	267.4
70°	277.3	273.9	270.6	267.4	260.7	257.4	250.9	244.2	234.3	227.8	217.9
72.5°	224.4	224.4	221.1	214.6	211.2	207.9	204.7	198.0	188.1	178.3	171.6
75°	174.9	174.9	174.9	168.4	161.7	158.4	158.4	151.8	145.2	135.3	128.8
77.5°	135.3	132.0	128.8	128.8	122.1	118.9	115.5	112.2	102.3	99.0	92.5
80°	92.5	95.7	92.5	89.1	85.8	82.5	82.5	75.9	72.6	66.0	59.4
82.5°	62.7	59.4	59.4	56.2	56.2	52.8	52.8	46.2	43.0	39.6	36.3
85°	33.0	33.0	29.8	29.8	29.8	26.4	26.4	23.1	23.1	19.8	16.5
87.5°	9.9	9.9	9.9	9.9	9.9	9.9	9.9	9.9	6.5	6.5	6.5
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: P584640

CATALOG NUMBER: HC840D010-HM82555940-81WWBB

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0
2.5°	2237.8	2231.2	2227.9	2227.9	2224.6	2221.3	2218.0	2214.7	2208.0	2208.0	2201.5
5°	2254.3	2247.7	2244.5	2234.5	2227.9	2227.9	2214.7	2211.4	2201.5	2195.0	2188.3
7.5°	2267.5	2254.3	2244.5	2234.5	2227.9	2221.3	2208.0	2195.0	2181.7	2168.5	2161.9
10°	2267.5	2254.3	2237.8	2221.3	2214.7	2208.0	2191.6	2171.8	2155.3	2142.1	2125.6
12.5°	2260.9	2241.1	2221.3	2208.0	2195.0	2185.0	2165.2	2145.3	2125.6	2099.2	2086.0
15°	2241.1	2214.7	2195.0	2171.8	2161.9	2145.3	2128.9	2099.2	2076.1	2053.0	2036.4
17.5°	2201.5	2168.5	2145.3	2122.2	2105.8	2095.8	2069.5	2043.1	2016.7	1990.3	1970.4
20°	2142.1	2112.4	2086.0	2056.3	2043.1	2029.9	1996.8	1970.4	1944.1	1914.4	1894.6
22.5°	2069.5	2039.8	2003.5	1980.4	1960.5	1944.1	1914.4	1884.6	1858.2	1831.9	1805.5
25°	1980.4	1950.6	1917.7	1881.4	1868.2	1851.6	1818.7	1788.9	1759.2	1729.5	1706.5
27.5°	1884.6	1845.0	1818.7	1779.0	1765.8	1749.3	1713.0	1680.0	1653.6	1630.5	1604.1
30°	1769.2	1739.4	1703.1	1666.8	1653.6	1637.1	1607.3	1577.7	1551.3	1524.9	1498.4
32.5°	1643.7	1614.0	1577.7	1551.3	1531.5	1518.3	1488.6	1462.2	1435.7	1409.3	1386.2
35°	1511.7	1478.7	1452.3	1425.9	1409.3	1392.9	1363.1	1340.1	1320.2	1297.1	1274.0
37.5°	1376.4	1353.3	1326.8	1297.1	1280.7	1267.5	1244.4	1218.0	1201.4	1181.7	1165.1
40°	1244.4	1218.0	1194.8	1168.5	1155.3	1145.3	1122.2	1102.4	1085.9	1069.5	1059.5
42.5°	1109.0	1085.9	1062.8	1046.2	1036.4	1026.5	1010.0	986.9	977.0	960.4	950.6
45°	983.5	963.8	947.2	924.2	917.6	910.9	891.2	874.6	864.8	854.9	848.2
47.5°	864.8	851.6	831.8	818.6	808.6	802.1	788.9	775.6	765.8	759.1	752.6
50°	762.4	745.9	732.7	719.5	712.9	703.1	689.8	683.2	676.6	670.0	670.0
52.5°	666.8	650.2	637.0	627.1	620.5	613.9	604.0	600.7	594.2	594.2	590.8
55°	577.6	567.7	554.5	541.3	538.0	534.7	528.1	521.5	518.2	514.9	518.2
57.5°	501.7	491.8	478.6	468.7	465.4	462.1	458.7	452.2	448.9	448.9	448.9
60°	432.3	422.4	412.6	402.7	402.7	396.0	392.8	389.5	386.2	382.8	382.8
62.5°	369.6	359.7	349.9	343.3	340.0	336.7	330.1	326.8	323.4	323.4	320.1
65°	313.6	300.4	297.0	287.1	283.8	280.6	277.3	270.6	267.4	264.1	260.7
67.5°	257.4	250.9	241.0	234.3	231.1	227.8	224.4	217.9	214.6	211.2	204.7
70°	207.9	201.3	194.7	188.1	184.8	181.5	174.9	168.4	165.1	158.4	148.5
72.5°	161.7	155.2	148.5	142.0	138.6	135.3	128.8	122.1	115.5	108.9	102.3
75°	122.1	115.5	105.7	99.0	95.7	95.7	85.8	79.3	72.6	62.7	56.2
77.5°	85.8	75.9	72.6	66.0	62.7	56.2	49.5	43.0	36.3	33.0	26.4
80°	56.2	49.5	43.0	39.6	36.3	33.0	29.8	23.1	16.5	13.2	9.9
82.5°	33.0	29.8	26.4	23.1	19.8	16.5	13.2	13.2	9.9	6.5	3.3
85°	16.5	13.2	9.9	9.9	6.5	6.5	6.5	3.3	3.3	3.3	3.3
87.5°	6.5	3.3	3.3	3.3	3.3	3.3	3.3	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: P584640

CATALOG NUMBER: HC840D010-HM82555940-81WWBB

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0
2.5°	2198.2	2195.0	2191.6	2188.3	2188.3	2181.7	2181.7	2178.4	2171.8	2168.5	2168.5
5°	2178.4	2168.5	2161.9	2158.5	2155.3	2145.3	2142.1	2135.5	2128.9	2122.2	2119.0
7.5°	2148.7	2132.2	2125.6	2122.2	2112.4	2102.5	2095.8	2086.0	2076.1	2066.2	2062.9
10°	2112.4	2095.8	2079.4	2072.7	2062.9	2056.3	2043.1	2029.9	2020.0	2010.0	2000.2
12.5°	2066.2	2046.3	2029.9	2023.2	2013.4	2000.2	1980.4	1973.7	1957.3	1950.6	1937.4
15°	2013.4	1990.3	1973.7	1963.9	1954.0	1934.1	1920.9	1907.7	1891.3	1884.6	1871.4
17.5°	1947.3	1920.9	1904.5	1894.6	1887.9	1871.4	1851.6	1835.1	1818.7	1812.0	1802.1
20°	1868.2	1851.6	1828.6	1818.7	1812.0	1792.3	1772.4	1765.8	1752.6	1739.4	1729.5
22.5°	1779.0	1762.5	1739.4	1729.5	1726.2	1709.7	1693.3	1683.3	1673.4	1663.5	1653.6
25°	1686.6	1666.8	1647.0	1640.4	1633.8	1620.5	1607.3	1600.8	1590.9	1584.2	1577.7
27.5°	1587.6	1567.8	1551.3	1541.4	1534.7	1524.9	1518.3	1511.7	1505.1	1498.4	1495.1
30°	1482.0	1462.2	1448.9	1442.4	1435.7	1432.4	1422.5	1419.3	1416.0	1409.3	1412.6
32.5°	1376.4	1359.8	1346.6	1336.7	1336.7	1330.2	1326.8	1326.8	1323.5	1323.5	1323.5
35°	1260.8	1250.9	1241.1	1237.7	1234.4	1231.2	1227.8	1231.2	1227.8	1231.2	1234.4
37.5°	1155.3	1145.3	1138.7	1135.4	1132.0	1135.4	1132.0	1132.0	1135.4	1142.0	1145.3
40°	1046.2	1039.7	1033.0	1036.4	1033.0	1033.0	1033.0	1043.0	1046.2	1049.6	1052.9
42.5°	944.0	937.4	934.0	934.0	937.4	934.0	940.7	944.0	950.6	960.4	967.1
45°	844.9	841.7	841.7	844.9	841.7	848.2	848.2	854.9	864.8	871.3	878.0
47.5°	752.6	752.6	752.6	755.9	755.9	759.1	765.8	769.1	775.6	782.2	788.9
50°	666.8	670.0	673.3	673.3	673.3	680.0	686.5	689.8	693.2	696.4	706.4
52.5°	590.8	594.2	594.2	597.4	600.7	604.0	607.3	613.9	617.3	623.8	627.1
55°	518.2	518.2	524.8	528.1	528.1	528.1	534.7	534.7	541.3	544.5	551.2
57.5°	448.9	452.2	452.2	455.5	455.5	458.7	462.1	465.4	468.7	472.0	475.3
60°	382.8	382.8	382.8	386.2	389.5	392.8	389.5	396.0	396.0	402.7	406.0
62.5°	320.1	323.4	323.4	323.4	323.4	323.4	323.4	326.8	330.1	333.3	336.7
65°	260.7	260.7	260.7	257.4	260.7	257.4	260.7	264.1	264.1	267.4	270.6
67.5°	201.3	201.3	194.7	194.7	198.0	198.0	198.0	198.0	194.7	201.3	201.3
70°	145.2	142.0	138.6	135.3	135.3	132.0	132.0	128.8	128.8	128.8	128.8
72.5°	95.7	89.1	82.5	79.3	75.9	75.9	69.3	66.0	69.3	69.3	69.3
75°	49.5	43.0	39.6	36.3	33.0	33.0	29.8	29.8	29.8	29.8	29.8
77.5°	19.8	16.5	13.2	13.2	9.9	9.9	9.9	9.9	9.9	9.9	9.9
80°	6.5	6.5	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
82.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
85°	3.3	0.0	0.0	3.3	0.0	3.3	3.3	3.3	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: P584640

CATALOG NUMBER: HC840D010-HM82555940-81WWBB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0	2208.0
2.5°	2165.2	2165.2	2161.9	2165.2	2158.5	2161.9	2158.5	2158.5
5°	2115.7	2109.0	2109.0	2109.0	2105.8	2105.8	2102.5	2102.5
7.5°	2056.3	2053.0	2049.7	2046.3	2043.1	2039.8	2039.8	2039.8
10°	1996.8	1990.3	1990.3	1986.9	1980.4	1977.1	1977.1	1977.1
12.5°	1927.6	1924.2	1920.9	1920.9	1907.7	1911.0	1907.7	1907.7
15°	1861.5	1858.2	1858.2	1848.3	1841.8	1841.8	1841.8	1838.4
17.5°	1792.3	1788.9	1785.6	1779.0	1772.4	1772.4	1769.2	1772.4
20°	1719.7	1716.3	1709.7	1709.7	1706.5	1703.1	1696.5	1699.8
22.5°	1647.0	1640.4	1637.1	1637.1	1633.8	1633.8	1627.2	1627.2
25°	1571.0	1567.8	1564.5	1567.8	1561.2	1561.2	1554.6	1554.6
27.5°	1491.9	1488.6	1488.6	1488.6	1485.2	1488.6	1485.2	1485.2
30°	1412.6	1412.6	1409.3	1409.3	1412.6	1409.3	1412.6	1416.0
32.5°	1326.8	1326.8	1330.2	1330.2	1333.4	1333.4	1333.4	1333.4
35°	1237.7	1244.4	1244.4	1247.6	1250.9	1254.3	1254.3	1257.5
37.5°	1155.3	1158.5	1161.8	1165.1	1171.7	1171.7	1171.7	1171.7
40°	1066.1	1069.5	1076.0	1072.7	1085.9	1089.2	1085.9	1085.9
42.5°	973.7	980.3	983.5	990.2	993.5	1000.1	1003.4	1003.4
45°	887.9	891.2	897.7	904.4	907.6	917.6	917.6	917.6
47.5°	798.7	805.4	808.6	815.3	818.6	828.5	831.8	828.5
50°	712.9	719.5	726.1	726.1	736.0	739.3	745.9	749.2
52.5°	630.5	633.7	640.3	643.7	650.2	656.8	660.1	663.4
55°	551.2	554.5	561.1	561.1	571.0	574.3	581.0	581.0
57.5°	478.6	481.8	488.5	485.2	491.8	498.4	498.4	495.0
60°	409.2	409.2	409.2	415.9	419.1	422.4	425.8	425.8
62.5°	336.7	343.3	346.5	346.5	349.9	353.2	353.2	349.9
65°	270.6	277.3	280.6	280.6	283.8	283.8	283.8	287.1
67.5°	204.7	204.7	204.7	207.9	204.7	204.7	204.7	204.7
70°	128.8	128.8	128.8	128.8	125.4	128.8	128.8	132.0
72.5°	69.3	69.3	69.3	69.3	69.3	69.3	69.3	69.3
75°	29.8	29.8	29.8	33.0	29.8	29.8	29.8	29.8
77.5°	13.2	9.9	13.2	13.2	9.9	9.9	9.9	9.9
80°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
82.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
85°	0.0	3.3	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)