

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: P584514

Luminaire Tested: **HC840D010-HM82555827-81RWWC**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584514
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2109-368-14)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 10/21/2021
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO COMMERCIAL
Catalog Number: HC840D010-HM82555827-81RWWC
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, SPECULAR TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4405.4 lumens
Efficiency: N/A
Efficacy: 107.4 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.08 / 1.17
Luminous Opening: Circular (Dia: 0.67' x H: 0')
CIE Type: Direct

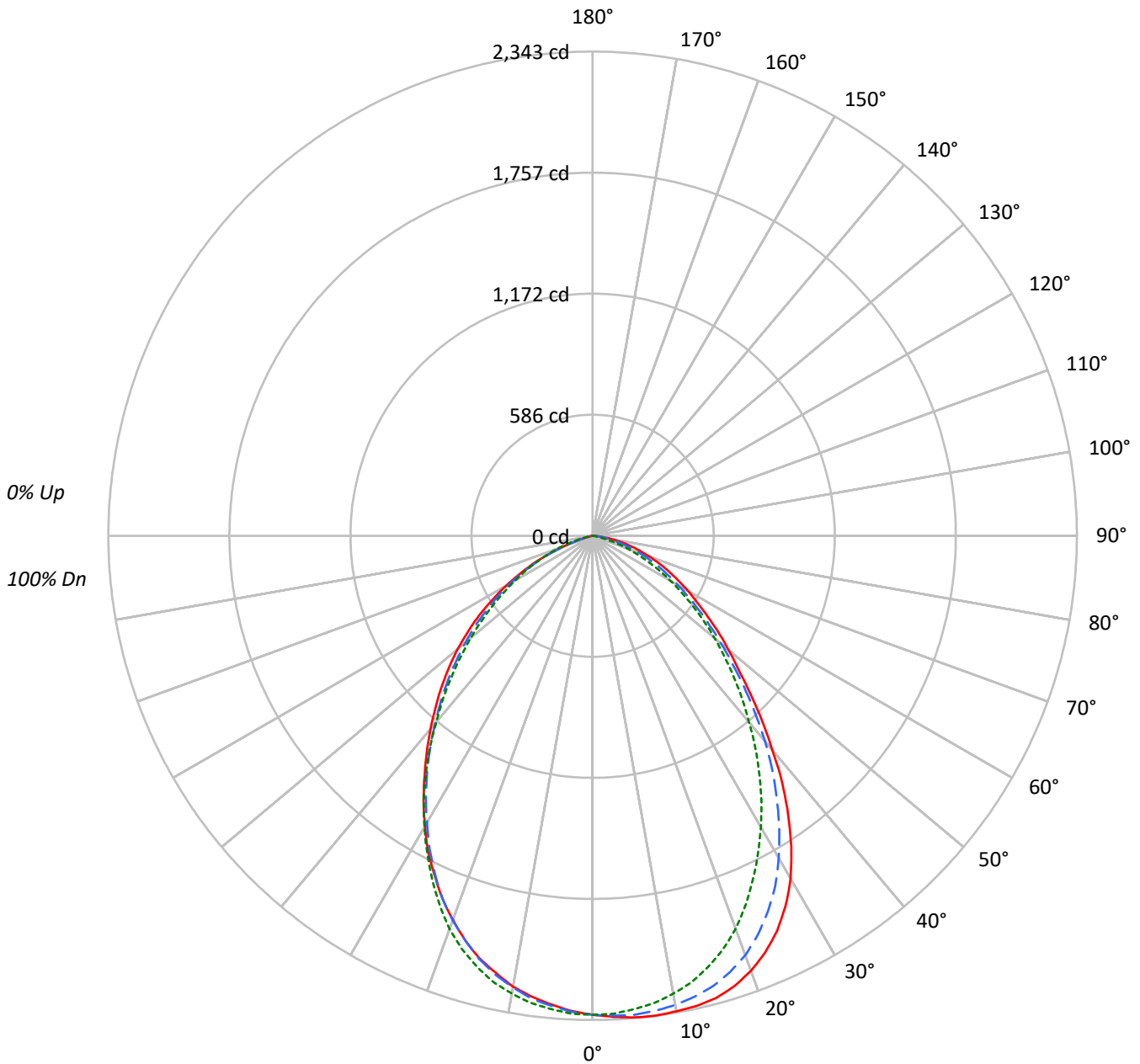
Input Watts (W): 41
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	111	107	104	101	108	105	102	99	101	98	96	97	95	93	93	92	90	88								
2	103	96	90	85	100	94	89	84	91	86	82	87	84	81	85	82	79	77								
3	95	86	79	73	93	84	78	73	82	76	72	79	74	70	76	73	69	67								
4	88	77	70	64	86	76	69	64	74	68	63	72	66	62	69	65	61	59								
5	81	70	62	56	80	69	62	56	67	61	56	65	59	55	63	58	54	52								
6	76	64	56	50	74	63	55	50	61	55	50	60	54	49	58	53	49	47								
7	71	59	51	45	69	58	50	45	56	50	45	55	49	44	54	48	44	42								
8	66	54	46	41	65	53	46	41	52	45	40	51	45	40	50	44	40	38								
9	62	50	42	37	61	49	42	37	48	42	37	47	41	37	46	41	37	35								
10	58	46	39	34	57	46	39	34	45	38	34	44	38	34	43	38	34	32								

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	71475	71475	71475
5°	72417	71173	70504
10°	73157	70446	69381
15°	73898	68959	67577
20°	73523	66418	64892
25°	71811	62438	61594
30°	68212	57961	57740
35°	62094	52890	53357
40°	54439	47339	49082
45°	46967	42109	45074
50°	41127	36963	40830
55°	36434	31778	35934
60°	32828	26723	29776
65°	29580	21452	22809
70°	25957	15625	12550
75°	22113	8114	3312
80°	17030	2202	550
85°	10933	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	218.7	5.0
10°-20°	614.8	14.0
20°-30°	872.6	19.8
30°-40°	918.5	20.9
40°-50°	781.4	17.7
50°-60°	564.7	12.8
60°-70°	321.2	7.3
70°-80°	101.2	2.3
80°-90°	12.3	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°	1706.1	38.7
0°-40°	2624.6	59.6
0°-60°	3970.7	90.1
0°-90°	4405.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4405.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2318	2318	2318	2318	2318	
5°	2340	2327	2299	2284	2278	223
15°	2315	2256	2160	2120	2117	652
25°	2111	2005	1835	1804	1810	967
35°	1650	1554	1405	1396	1417	1026
45°	1077	1037	966	990	1034	837
55°	678	628	591	625	668	611
65°	405	350	294	291	313	402
75°	186	142	68	31	28	200
85°	31	19	0	0	0	40
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°	2317.9	2317.9	2317.9	2317.9	2317.9	2317.9	2317.9	2317.9	2317.9	2317.9	2317.9
2.5°	2330.3	2333.4	2327.2	2327.2	2333.4	2327.2	2330.3	2330.3	2327.2	2327.2	2324.1
5°	2339.5	2336.4	2336.4	2336.4	2339.5	2333.4	2330.3	2333.4	2327.2	2327.2	2327.2
7.5°	2342.6	2342.6	2339.5	2336.4	2336.4	2336.4	2333.4	2330.3	2327.2	2321.0	2317.9
10°	2336.4	2336.4	2339.5	2333.4	2333.4	2327.2	2327.2	2321.0	2321.0	2314.8	2305.5
12.5°	2330.3	2327.2	2327.2	2321.0	2321.0	2314.8	2314.8	2305.5	2302.4	2293.1	2283.8
15°	2314.8	2311.7	2305.5	2302.4	2299.3	2296.2	2290.0	2286.9	2277.7	2265.3	2256.0
17.5°	2283.8	2280.8	2277.7	2271.5	2265.3	2262.2	2259.1	2249.8	2237.4	2228.2	2212.7
20°	2240.5	2237.4	2237.4	2228.2	2225.1	2215.8	2212.7	2200.3	2191.0	2172.5	2160.1
22.5°	2181.7	2184.8	2178.7	2172.5	2166.3	2157.0	2150.8	2138.4	2123.0	2104.4	2088.9
25°	2110.6	2113.7	2107.5	2101.3	2092.0	2085.8	2079.6	2061.1	2045.6	2024.0	2005.4
27.5°	2020.9	2020.9	2020.9	2014.7	1999.2	1996.1	1989.9	1971.4	1949.7	1931.1	1912.6
30°	1915.7	1912.6	1912.6	1903.3	1897.1	1884.7	1875.4	1860.0	1844.4	1822.7	1801.1
32.5°	1788.7	1791.8	1782.5	1776.3	1767.0	1767.0	1754.7	1742.3	1723.7	1702.1	1680.4
35°	1649.5	1652.6	1646.4	1643.3	1627.8	1624.7	1621.6	1606.1	1593.8	1578.3	1553.5
37.5°	1507.1	1504.0	1500.9	1500.9	1491.7	1485.5	1479.3	1470.0	1451.4	1439.1	1426.7
40°	1352.4	1352.4	1352.4	1349.3	1346.2	1340.1	1337.0	1330.8	1318.3	1305.9	1296.6
42.5°	1213.1	1213.1	1210.0	1206.9	1200.7	1203.8	1197.6	1191.4	1179.1	1169.8	1163.6
45°	1077.0	1077.0	1077.0	1080.0	1073.9	1064.6	1064.6	1058.4	1052.2	1046.0	1036.7
47.5°	956.3	965.6	959.4	956.3	959.4	947.0	947.0	940.8	934.6	928.4	916.1
50°	857.3	857.3	857.3	851.1	848.0	848.0	838.7	832.5	829.4	823.2	810.9
52.5°	767.4	761.2	761.2	758.1	755.1	748.9	748.9	742.7	730.3	724.1	714.8
55°	677.7	677.7	674.6	671.5	668.4	665.3	662.2	653.0	646.8	637.5	628.2
57.5°	597.3	603.4	600.4	594.2	588.0	588.0	581.8	575.6	566.3	557.0	547.8
60°	532.3	529.2	529.2	526.1	519.9	516.8	513.7	504.4	495.2	485.9	476.6
62.5°	464.2	464.2	464.2	458.0	451.8	448.7	445.7	439.5	427.1	417.8	411.6
65°	405.4	402.3	399.2	396.2	393.1	386.9	383.8	377.6	368.3	359.0	349.7
67.5°	346.6	343.6	343.6	340.5	331.2	328.1	328.1	318.8	309.5	300.2	291.0
70°	287.9	287.9	287.9	281.7	278.6	275.5	272.4	266.2	256.8	247.5	238.2
72.5°	238.2	235.1	235.1	232.0	222.8	219.7	216.6	210.4	201.1	194.9	188.7
75°	185.6	185.6	182.5	179.5	176.4	173.3	170.2	164.0	154.7	145.4	142.3
77.5°	142.3	139.2	139.2	136.1	129.9	126.9	126.9	120.7	111.4	105.2	99.0
80°	95.9	99.0	95.9	92.8	89.7	86.6	83.5	80.4	74.3	68.1	61.9
82.5°	58.8	61.9	58.8	58.8	55.7	52.6	52.6	46.4	43.3	40.2	37.1
85°	30.9	30.9	30.9	30.9	27.8	27.8	27.8	24.8	21.7	18.6	18.6
87.5°	9.3	12.4	9.3	9.3	9.3	9.3	9.3	9.3	6.2	6.2	6.2
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°	2317.9	2317.9	2317.9	2317.9	2317.9	2317.9	2317.9	2317.9	2317.9	2317.9	2317.9
2.5°	2327.2	2324.1	2321.0	2321.0	2321.0	2321.0	2321.0	2317.9	2314.8	2314.8	2314.8
5°	2321.0	2321.0	2321.0	2317.9	2314.8	2314.8	2308.6	2305.5	2302.4	2299.3	2296.2
7.5°	2314.8	2308.6	2305.5	2302.4	2299.3	2299.3	2293.1	2286.9	2286.9	2280.8	2274.6
10°	2296.2	2293.1	2286.9	2280.8	2277.7	2274.6	2268.4	2259.1	2256.0	2249.8	2243.6
12.5°	2274.6	2268.4	2262.2	2249.8	2246.7	2243.6	2231.2	2222.0	2215.8	2212.7	2197.2
15°	2246.7	2234.3	2225.1	2209.6	2206.5	2200.3	2191.0	2181.7	2169.4	2160.1	2153.9
17.5°	2197.2	2184.8	2169.4	2153.9	2147.7	2147.7	2132.2	2119.9	2104.4	2098.2	2085.8
20°	2138.4	2123.0	2110.6	2092.0	2082.7	2073.5	2064.2	2045.6	2033.2	2024.0	2008.5
22.5°	2070.4	2048.7	2033.2	2014.7	1999.2	1989.9	1974.4	1959.0	1943.5	1934.2	1921.8
25°	1983.7	1965.2	1940.4	1921.8	1912.6	1900.2	1881.6	1866.2	1850.7	1835.1	1828.9
27.5°	1887.8	1863.1	1841.3	1819.6	1810.3	1801.1	1779.4	1760.8	1748.5	1733.0	1726.8
30°	1782.5	1757.7	1733.0	1714.4	1705.2	1689.7	1677.3	1655.6	1640.2	1627.8	1612.3
32.5°	1661.8	1643.3	1621.6	1593.8	1587.6	1575.2	1556.6	1547.4	1528.8	1519.5	1507.1
35°	1531.9	1519.5	1497.9	1476.2	1466.9	1460.7	1445.3	1426.7	1414.3	1405.0	1398.8
37.5°	1408.1	1392.7	1371.0	1355.5	1349.3	1340.1	1321.5	1312.1	1299.7	1293.5	1281.2
40°	1275.0	1259.5	1244.0	1234.7	1225.5	1219.3	1206.9	1197.6	1185.2	1176.0	1172.9
42.5°	1145.0	1135.7	1123.4	1111.0	1107.9	1098.6	1092.4	1083.1	1073.9	1070.8	1061.5
45°	1027.4	1018.2	1005.8	993.4	990.3	984.1	981.0	971.8	965.6	965.6	965.6
47.5°	909.9	900.6	888.2	882.0	885.1	872.7	872.7	869.7	863.5	863.5	866.6
50°	804.7	792.3	789.1	782.9	776.7	770.5	773.6	764.3	764.3	770.5	767.4
52.5°	705.6	693.2	690.1	683.9	680.8	680.8	677.7	677.7	674.6	677.7	677.7
55°	615.8	606.5	600.4	594.2	591.1	591.1	591.1	588.0	584.9	591.1	594.2
57.5°	535.4	532.3	526.1	516.8	513.7	510.6	507.5	507.5	507.5	507.5	510.6
60°	464.2	458.0	451.8	442.6	442.6	439.5	436.4	433.3	433.3	433.3	433.3
62.5°	402.3	393.1	383.8	377.6	374.5	371.4	368.3	362.1	362.1	362.1	362.1
65°	340.5	331.2	325.0	318.8	312.6	312.6	306.4	303.3	297.1	294.0	287.9
67.5°	281.7	275.5	269.3	259.9	256.8	253.7	247.5	244.4	235.1	232.0	229.0
70°	229.0	219.7	213.5	207.3	204.2	198.0	191.8	185.6	179.5	173.3	167.1
72.5°	179.5	170.2	164.0	157.8	151.6	151.6	142.3	136.1	126.9	120.7	111.4
75°	133.0	123.8	117.6	108.3	105.2	102.1	92.8	86.6	77.4	68.1	61.9
77.5°	89.7	83.5	77.4	68.1	61.9	61.9	52.6	46.4	40.2	30.9	27.8
80°	55.7	49.5	43.3	37.1	37.1	30.9	27.8	21.7	15.5	12.4	9.3
82.5°	30.9	27.8	24.8	18.6	18.6	15.5	12.4	9.3	6.2	3.1	3.1
85°	15.5	12.4	9.3	9.3	6.2	6.2	6.2	3.1	3.1	0.0	0.0
87.5°	6.2	3.1	3.1	3.1	3.1	3.1	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



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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	2317.9	2317.9	2317.9	2317.9	2317.9	2317.9	2317.9	2317.9	2317.9	2317.9	2317.9
2.5°	2311.7	2311.7	2308.6	2308.6	2308.6	2305.5	2308.6	2305.5	2305.5	2305.5	2308.6
5°	2299.3	2293.1	2293.1	2290.0	2290.0	2286.9	2290.0	2286.9	2283.8	2280.8	2283.8
7.5°	2274.6	2268.4	2265.3	2262.2	2262.2	2262.2	2259.1	2256.0	2259.1	2249.8	2256.0
10°	2240.5	2237.4	2231.2	2228.2	2225.1	2228.2	2225.1	2218.9	2218.9	2218.9	2215.8
12.5°	2197.2	2191.0	2187.9	2184.8	2178.7	2178.7	2181.7	2175.6	2175.6	2169.4	2169.4
15°	2144.6	2138.4	2132.2	2132.2	2126.1	2126.1	2123.0	2123.0	2119.9	2116.8	2116.8
17.5°	2079.6	2070.4	2064.2	2067.3	2064.2	2061.1	2061.1	2054.9	2051.8	2054.9	2054.9
20°	2002.3	1996.1	1989.9	1993.0	1986.8	1983.7	1986.8	1977.5	1980.6	1980.6	1980.6
22.5°	1915.7	1912.6	1903.3	1903.3	1897.1	1894.0	1897.1	1897.1	1900.2	1897.1	1897.1
25°	1819.6	1813.4	1807.3	1807.3	1804.2	1801.1	1804.2	1807.3	1804.2	1807.3	1807.3
27.5°	1717.5	1708.2	1708.2	1702.1	1702.1	1705.2	1702.1	1705.2	1708.2	1708.2	1714.4
30°	1606.1	1603.0	1600.0	1596.9	1596.9	1600.0	1600.0	1600.0	1603.0	1609.2	1609.2
32.5°	1500.9	1494.8	1488.6	1488.6	1494.8	1491.7	1494.8	1494.8	1500.9	1500.9	1507.1
35°	1386.5	1386.5	1380.3	1383.4	1383.4	1383.4	1383.4	1389.6	1395.8	1398.8	1405.0
37.5°	1281.2	1271.9	1275.0	1275.0	1278.1	1275.0	1284.2	1284.2	1290.4	1290.4	1296.6
40°	1166.7	1166.7	1169.8	1166.7	1169.8	1169.8	1176.0	1182.1	1185.2	1191.4	1194.5
42.5°	1058.4	1064.6	1058.4	1061.5	1064.6	1067.7	1070.8	1073.9	1086.2	1092.4	1101.7
45°	959.4	962.5	965.6	968.7	965.6	971.8	974.8	981.0	990.3	993.4	996.5
47.5°	863.5	866.6	869.7	872.7	872.7	878.9	882.0	888.2	894.4	897.5	900.6
50°	770.5	776.7	779.8	779.8	782.9	789.1	795.4	795.4	801.6	810.9	814.0
52.5°	687.0	687.0	693.2	696.3	699.4	699.4	708.6	711.7	714.8	721.0	727.2
55°	594.2	603.4	606.5	606.5	612.7	618.9	622.0	625.1	625.1	637.5	637.5
57.5°	513.7	516.8	523.0	523.0	523.0	532.3	532.3	538.5	541.6	544.7	550.9
60°	433.3	439.5	439.5	442.6	439.5	445.7	448.7	454.9	458.0	461.1	464.2
62.5°	359.0	359.0	362.1	362.1	362.1	362.1	368.3	368.3	374.5	377.6	380.7
65°	287.9	287.9	287.9	287.9	287.9	287.9	287.9	287.9	291.0	291.0	297.1
67.5°	222.8	219.7	213.5	216.6	213.5	213.5	210.4	210.4	213.5	213.5	219.7
70°	160.9	157.8	151.6	151.6	148.5	145.4	142.3	139.2	136.1	136.1	136.1
72.5°	105.2	99.0	89.7	86.6	86.6	80.4	74.3	71.2	71.2	71.2	71.2
75°	52.6	46.4	40.2	37.1	37.1	30.9	34.0	30.9	30.9	30.9	30.9
77.5°	21.7	15.5	12.4	12.4	12.4	9.3	9.3	9.3	9.3	9.3	9.3
80°	6.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
82.5°	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	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	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: P584514

CATALOG NUMBER: HC840D010-HM82555827-81RWWC

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	2317.9	2317.9	2317.9	2317.9	2317.9	2317.9	2317.9	2317.9
2.5°	2305.5	2305.5	2299.3	2302.4	2302.4	2302.4	2302.4	2302.4
5°	2277.7	2280.8	2277.7	2280.8	2280.8	2277.7	2277.7	2277.7
7.5°	2249.8	2252.9	2249.8	2252.9	2252.9	2252.9	2249.8	2249.8
10°	2215.8	2215.8	2215.8	2215.8	2215.8	2212.7	2215.8	2215.8
12.5°	2169.4	2169.4	2169.4	2172.5	2172.5	2169.4	2169.4	2166.3
15°	2119.9	2113.7	2116.8	2119.9	2116.8	2116.8	2116.8	2116.8
17.5°	2051.8	2054.9	2051.8	2051.8	2051.8	2051.8	2054.9	2051.8
20°	1980.6	1980.6	1983.7	1980.6	1980.6	1980.6	1980.6	1977.5
22.5°	1900.2	1897.1	1897.1	1900.2	1900.2	1897.1	1900.2	1900.2
25°	1810.3	1813.4	1810.3	1810.3	1813.4	1813.4	1813.4	1810.3
27.5°	1714.4	1717.5	1720.6	1717.5	1717.5	1717.5	1720.6	1723.7
30°	1615.4	1621.6	1615.4	1615.4	1621.6	1618.5	1621.6	1621.6
32.5°	1510.2	1519.5	1513.3	1519.5	1519.5	1522.6	1519.5	1522.6
35°	1405.0	1414.3	1414.3	1414.3	1417.4	1420.5	1420.5	1417.4
37.5°	1305.9	1309.0	1309.0	1315.2	1318.3	1321.5	1321.5	1318.3
40°	1203.8	1210.0	1213.1	1213.1	1213.1	1219.3	1225.5	1219.3
42.5°	1104.8	1107.9	1111.0	1111.0	1117.2	1120.3	1123.4	1123.4
45°	1008.9	1015.1	1018.2	1021.3	1024.4	1030.5	1027.4	1033.6
47.5°	909.9	919.2	922.2	925.3	931.5	934.6	937.7	940.8
50°	820.1	826.3	826.3	832.5	841.8	841.8	848.0	851.1
52.5°	730.3	733.4	736.5	739.6	745.8	752.0	752.0	758.1
55°	643.7	646.8	646.8	649.9	653.0	665.3	668.4	668.4
57.5°	553.9	553.9	560.1	563.2	566.3	572.5	572.5	572.5
60°	467.3	470.4	470.4	473.5	476.6	482.8	485.9	482.8
62.5°	380.7	383.8	383.8	386.9	393.1	396.2	393.1	393.1
65°	300.2	303.3	303.3	306.4	312.6	312.6	309.5	312.6
67.5°	219.7	219.7	219.7	219.7	219.7	219.7	219.7	219.7
70°	139.2	136.1	133.0	136.1	136.1	136.1	133.0	139.2
72.5°	68.1	71.2	71.2	71.2	71.2	71.2	71.2	68.1
75°	30.9	30.9	27.8	27.8	27.8	30.9	30.9	27.8
77.5°	9.3	9.3	9.3	9.3	9.3	9.3	9.3	9.3
80°	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	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)