

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: P584387

Luminaire Tested: **HC835D010-HM82555827-81WWWB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584387
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: HC835D010-HM82555827-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 80CRI / 2700K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3780.9 lumens
Efficiency: N/A
Efficacy: 112.2 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

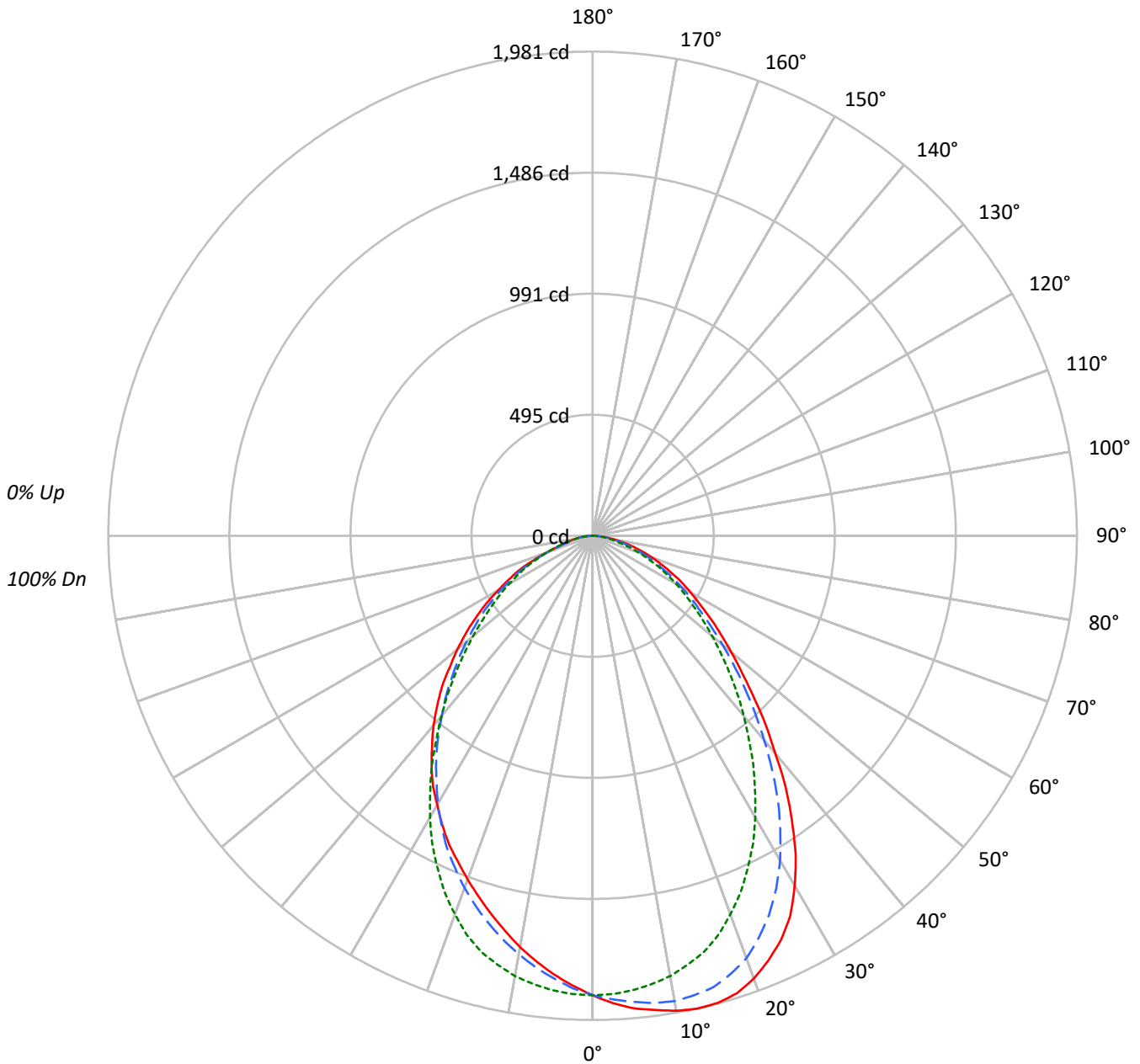
Input Watts (W): 33.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	57969	57969	57969
5°	60088	57776	55792
10°	61788	57273	53509
15°	63165	56263	51149
20°	63265	54063	49069
25°	62053	51060	47334
30°	58854	47350	45260
35°	53477	43121	43223
40°	46759	38696	40741
45°	40526	34469	37962
50°	35481	30616	34588
55°	31585	27133	31295
60°	28487	24373	27500
65°	25720	21430	23969
70°	23117	18059	17815
75°	20373	14321	13356
80°	17065	11845	12803
85°	13232	10402	11322



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	177.3	4.7
10°-20°	499.5	13.2
20°-30°	713.9	18.9
30°-40°	758.5	20.1
40°-50°	653.1	17.3
50°-60°	488.3	12.9
60°-70°	311.4	8.2
70°-80°	141.7	3.7
80°-90°	37.2	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°	1390.7	36.8
0°-40°	2149.2	56.8
0°-60°	3290.5	87.0
0°-90°	3780.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3780.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1880	1880	1880	1880	1880	
5°	1941	1914	1866	1818	1802	186
15°	1979	1912	1762	1642	1602	557
25°	1824	1709	1501	1410	1391	835
35°	1421	1322	1146	1116	1148	885
45°	929	878	790	812	870	722
55°	588	539	505	547	582	528
65°	352	312	294	307	328	352
75°	171	147	120	110	112	182
85°	37	32	29	32	32	45
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°	1879.9	1879.9	1879.9	1879.9	1879.9	1879.9	1879.9	1879.9	1879.9	1879.9	1879.9
2.5°	1914.5	1909.3	1911.9	1909.3	1911.9	1911.9	1906.6	1906.6	1906.6	1906.6	1898.6
5°	1941.2	1938.6	1938.6	1936.0	1933.2	1936.0	1933.2	1930.6	1925.3	1922.6	1914.5
7.5°	1957.3	1957.3	1957.3	1957.3	1954.7	1951.9	1949.3	1944.0	1938.6	1933.2	1927.9
10°	1973.3	1976.0	1973.3	1970.6	1968.0	1962.7	1959.9	1954.7	1946.6	1938.6	1933.2
12.5°	1981.4	1981.4	1978.6	1978.6	1973.3	1970.6	1962.7	1954.7	1946.6	1938.6	1925.3
15°	1978.6	1978.6	1976.0	1973.3	1965.3	1962.7	1957.3	1949.3	1936.0	1925.3	1911.9
17.5°	1962.7	1959.9	1954.7	1954.7	1944.0	1941.2	1936.0	1925.3	1911.9	1895.8	1879.9
20°	1927.9	1927.9	1925.3	1922.6	1911.9	1903.9	1898.6	1885.2	1874.5	1855.8	1839.8
22.5°	1879.9	1885.2	1879.9	1874.5	1861.2	1858.5	1850.4	1834.5	1818.4	1797.1	1778.4
25°	1823.8	1821.1	1818.4	1813.1	1802.4	1797.1	1786.5	1770.4	1754.4	1730.3	1708.9
27.5°	1751.7	1741.1	1741.1	1730.3	1722.4	1714.3	1708.9	1692.9	1671.6	1652.9	1626.2
30°	1652.9	1655.5	1642.2	1639.6	1626.2	1620.9	1610.1	1594.2	1575.5	1554.0	1532.7
32.5°	1546.0	1538.1	1538.1	1527.3	1516.7	1508.6	1506.0	1487.3	1471.3	1449.9	1428.6
35°	1420.6	1420.6	1412.6	1409.9	1399.3	1393.9	1385.8	1375.2	1356.5	1337.8	1321.8
37.5°	1297.8	1292.4	1289.8	1284.4	1276.3	1268.3	1268.3	1249.6	1247.0	1225.7	1204.2
40°	1161.6	1166.9	1161.6	1153.6	1150.9	1145.5	1142.9	1132.2	1124.2	1105.5	1092.1
42.5°	1046.7	1041.4	1041.4	1038.8	1028.0	1028.0	1022.7	1017.3	1004.0	998.7	982.6
45°	929.3	934.6	926.5	929.3	918.6	918.6	918.6	907.8	897.2	889.2	878.5
47.5°	827.8	830.5	830.5	822.4	819.8	819.8	814.4	809.1	801.1	790.4	782.4
50°	739.6	742.3	737.0	734.4	729.0	726.3	726.3	715.7	710.3	699.6	694.2
52.5°	659.5	659.5	656.9	656.9	648.8	648.8	643.6	635.5	630.1	624.9	611.5
55°	587.5	587.5	584.7	582.1	582.1	574.1	571.4	563.4	558.0	547.4	539.3
57.5°	518.0	520.7	518.0	515.4	512.7	510.0	504.7	496.7	491.3	483.3	478.0
60°	461.9	461.9	459.3	456.6	451.3	448.7	445.9	440.6	432.6	427.2	419.2
62.5°	408.5	405.9	403.2	400.5	395.2	395.2	389.8	384.6	376.5	371.1	365.9
65°	352.5	352.5	349.8	349.8	347.2	341.8	339.2	336.4	325.7	323.1	312.4
67.5°	301.8	304.4	299.0	299.0	293.7	293.7	291.1	283.1	280.3	275.1	269.7
70°	256.4	256.4	256.4	253.6	248.3	245.7	243.0	237.7	234.9	229.7	224.3
72.5°	211.0	211.0	208.3	208.3	205.6	202.9	200.3	194.9	194.9	189.6	184.3
75°	171.0	171.0	168.2	165.6	162.9	162.9	160.2	157.5	152.1	149.5	146.9
77.5°	130.8	130.8	130.8	128.2	125.6	125.6	125.6	120.2	114.8	114.8	112.1
80°	96.1	96.1	93.4	93.4	90.8	90.8	90.8	88.2	85.4	82.8	80.1
82.5°	64.1	64.1	64.1	64.1	61.5	61.5	61.5	58.7	56.1	56.1	56.1
85°	37.4	37.4	37.4	37.4	34.7	34.7	34.7	34.7	34.7	32.0	32.0
87.5°	16.1	13.3	16.1	13.3	16.1	13.3	16.1	13.3	13.3	13.3	13.3
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°	1879.9	1879.9	1879.9	1879.9	1879.9	1879.9	1879.9	1879.9	1879.9	1879.9	1879.9
2.5°	1901.2	1898.6	1895.8	1893.2	1893.2	1890.6	1885.2	1882.5	1879.9	1877.1	1877.1
5°	1911.9	1909.3	1903.9	1898.6	1895.8	1890.6	1885.2	1879.9	1874.5	1866.5	1863.8
7.5°	1919.9	1911.9	1906.6	1895.8	1893.2	1887.9	1879.9	1871.9	1861.2	1850.4	1842.5
10°	1919.9	1909.3	1901.2	1887.9	1882.5	1877.1	1866.5	1853.2	1839.8	1829.1	1815.8
12.5°	1914.5	1901.2	1887.9	1874.5	1866.5	1858.5	1842.5	1829.1	1813.1	1797.1	1786.5
15°	1895.8	1879.9	1863.8	1847.8	1839.8	1829.1	1813.1	1794.4	1778.4	1762.4	1743.7
17.5°	1861.2	1845.2	1826.5	1807.8	1797.1	1789.1	1765.0	1751.7	1727.6	1711.6	1695.6
20°	1815.8	1797.1	1773.0	1754.4	1741.1	1733.0	1714.3	1690.3	1671.6	1647.5	1631.6
22.5°	1757.0	1733.0	1708.9	1690.3	1677.0	1666.3	1642.2	1618.1	1602.2	1580.8	1562.1
25°	1687.6	1663.5	1639.6	1612.9	1599.4	1588.8	1567.5	1546.0	1524.7	1500.7	1484.7
27.5°	1604.8	1578.1	1556.8	1532.7	1519.4	1503.4	1479.3	1458.0	1436.6	1420.6	1399.3
30°	1514.0	1484.7	1463.4	1439.3	1425.9	1412.6	1388.5	1367.2	1348.5	1329.8	1319.1
32.5°	1404.5	1383.2	1361.9	1337.8	1327.1	1319.1	1295.0	1273.7	1252.4	1236.3	1228.3
35°	1300.4	1276.3	1257.7	1236.3	1222.9	1215.0	1193.6	1174.9	1164.2	1145.5	1134.9
37.5°	1190.9	1172.2	1150.9	1129.5	1121.6	1113.5	1097.5	1078.8	1062.7	1049.4	1044.1
40°	1076.2	1060.1	1041.4	1028.0	1020.1	1012.1	998.7	985.4	974.7	961.3	956.0
42.5°	966.7	956.0	940.0	923.9	915.9	913.2	897.2	886.5	881.1	875.9	870.5
45°	867.8	851.8	841.1	830.5	822.4	817.2	809.1	801.1	795.7	790.4	785.0
47.5°	771.8	758.3	747.7	739.6	731.6	729.0	723.6	715.7	710.3	710.3	710.3
50°	683.6	672.9	662.3	656.9	654.2	648.8	643.6	640.8	638.2	638.2	638.2
52.5°	606.2	595.5	587.5	582.1	582.1	576.7	571.4	568.8	568.8	568.8	568.8
55°	534.1	526.0	520.7	515.4	510.0	507.4	507.4	507.4	504.7	504.7	507.4
57.5°	470.0	464.6	456.6	451.3	448.7	448.7	445.9	443.3	445.9	448.7	451.3
60°	411.3	405.9	403.2	395.2	395.2	395.2	392.6	392.6	392.6	395.2	397.9
62.5°	357.8	355.1	349.8	347.2	344.4	344.4	341.8	341.8	341.8	341.8	344.4
65°	309.8	304.4	299.0	299.0	299.0	296.4	296.4	291.1	293.7	293.7	291.1
67.5°	264.4	259.0	256.4	253.6	251.0	251.0	248.3	245.7	243.0	243.0	243.0
70°	221.6	216.2	216.2	211.0	211.0	208.3	205.6	205.6	202.9	200.3	197.6
72.5°	178.9	176.2	173.6	171.0	171.0	171.0	168.2	165.6	162.9	160.2	154.9
75°	141.5	141.5	136.2	133.5	133.5	130.8	128.2	125.6	122.8	120.2	117.5
77.5°	109.5	106.9	101.5	98.8	98.8	98.8	96.1	93.4	90.8	88.2	85.4
80°	80.1	77.4	74.8	72.1	72.1	72.1	69.5	69.5	66.7	66.7	66.7
82.5°	53.4	53.4	50.7	50.7	50.7	50.7	48.0	48.0	48.0	48.0	48.0
85°	32.0	32.0	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4
87.5°	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3
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°	1879.9	1879.9	1879.9	1879.9	1879.9	1879.9	1879.9	1879.9	1879.9	1879.9	1879.9
2.5°	1871.9	1871.9	1866.5	1863.8	1861.2	1863.8	1858.5	1855.8	1853.2	1853.2	1850.4
5°	1855.8	1853.2	1842.5	1839.8	1837.1	1834.5	1829.1	1823.8	1818.4	1815.8	1813.1
7.5°	1834.5	1826.5	1815.8	1813.1	1810.4	1802.4	1794.4	1789.1	1781.1	1778.4	1773.0
10°	1805.1	1794.4	1786.5	1778.4	1773.0	1765.0	1757.0	1749.0	1738.3	1735.7	1727.6
12.5°	1770.4	1757.0	1741.1	1738.3	1730.3	1719.6	1708.9	1700.9	1692.9	1687.6	1679.6
15°	1727.6	1714.3	1698.3	1690.3	1682.2	1674.2	1660.9	1650.2	1642.2	1634.2	1626.2
17.5°	1677.0	1660.9	1647.5	1639.6	1634.2	1620.9	1610.1	1596.8	1588.8	1580.8	1572.7
20°	1615.5	1602.2	1583.5	1575.5	1572.7	1562.1	1548.8	1543.4	1532.7	1524.7	1519.4
22.5°	1546.0	1532.7	1516.7	1511.4	1500.7	1495.3	1482.0	1476.7	1471.3	1463.4	1460.6
25°	1468.6	1455.3	1441.9	1439.3	1431.3	1425.9	1418.0	1409.9	1409.9	1401.9	1401.9
27.5°	1388.5	1375.2	1364.5	1359.1	1356.5	1351.1	1343.2	1340.4	1337.8	1335.2	1335.2
30°	1303.1	1287.0	1281.7	1279.1	1276.3	1271.1	1268.3	1263.1	1265.7	1268.3	1265.7
32.5°	1212.3	1207.0	1196.3	1190.9	1193.6	1190.9	1185.5	1190.9	1188.3	1193.6	1196.3
35°	1124.2	1118.8	1113.5	1113.5	1108.1	1108.1	1108.1	1110.8	1116.2	1118.8	1124.2
37.5°	1038.8	1030.8	1028.0	1025.4	1028.0	1028.0	1028.0	1033.4	1038.8	1044.1	1052.1
40°	948.0	942.6	942.6	942.6	942.6	950.6	948.0	953.2	958.6	966.7	974.7
42.5°	862.4	862.4	865.2	865.2	865.2	865.2	870.5	878.5	886.5	894.5	902.6
45°	782.4	782.4	782.4	787.7	787.7	790.4	801.1	806.4	811.8	819.8	827.8
47.5°	707.7	707.7	710.3	712.9	715.7	721.0	726.3	734.4	742.3	747.7	755.7
50°	638.2	640.8	646.2	651.6	651.6	654.2	662.3	667.5	672.9	680.9	683.6
52.5°	571.4	576.7	582.1	584.7	587.5	592.8	595.5	603.4	606.2	614.2	616.9
55°	510.0	512.7	520.7	523.4	523.4	528.7	534.1	539.3	547.4	547.4	552.8
57.5°	453.9	456.6	461.9	464.6	461.9	470.0	472.6	478.0	480.6	486.0	488.7
60°	397.9	403.2	405.9	405.9	408.5	411.3	416.5	416.5	421.9	427.2	427.2
62.5°	344.4	347.2	349.8	352.5	355.1	352.5	360.5	360.5	365.9	368.5	373.9
65°	293.7	296.4	296.4	299.0	299.0	301.8	301.8	304.4	307.0	312.4	315.1
67.5°	243.0	243.0	243.0	245.7	243.0	245.7	245.7	248.3	248.3	253.6	256.4
70°	197.6	194.9	192.3	192.3	192.3	192.3	189.6	192.3	192.3	194.9	194.9
72.5°	152.1	149.5	146.9	144.2	144.2	141.5	138.8	141.5	141.5	144.2	144.2
75°	114.8	109.5	109.5	109.5	106.9	106.9	106.9	109.5	109.5	109.5	112.1
77.5°	85.4	85.4	82.8	82.8	82.8	85.4	85.4	88.2	88.2	88.2	88.2
80°	64.1	66.7	66.7	66.7	66.7	69.5	69.5	69.5	69.5	72.1	72.1
82.5°	48.0	48.0	48.0	48.0	50.7	50.7	50.7	50.7	50.7	50.7	50.7
85°	29.4	32.0	32.0	29.4	32.0	32.0	32.0	32.0	32.0	32.0	32.0
87.5°	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3
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: P584387

CATALOG NUMBER: HC835D010-HM82555827-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1879.9	1879.9	1879.9	1879.9	1879.9	1879.9	1879.9	1879.9
2.5°	1847.8	1847.8	1847.8	1847.8	1845.2	1845.2	1845.2	1842.5
5°	1807.8	1807.8	1807.8	1802.4	1805.1	1805.1	1799.8	1802.4
7.5°	1767.8	1765.0	1762.4	1762.4	1759.7	1757.0	1754.4	1757.0
10°	1722.4	1714.3	1714.3	1711.6	1711.6	1706.3	1706.3	1708.9
12.5°	1671.6	1666.3	1666.3	1663.5	1660.9	1658.3	1655.5	1655.5
15°	1620.9	1615.5	1612.9	1610.1	1607.5	1602.2	1604.8	1602.2
17.5°	1570.1	1562.1	1562.1	1559.4	1556.8	1551.4	1551.4	1548.8
20°	1511.4	1508.6	1503.4	1506.0	1503.4	1498.0	1495.3	1495.3
22.5°	1452.6	1452.6	1449.9	1449.9	1447.3	1444.7	1441.9	1441.9
25°	1396.5	1393.9	1396.5	1396.5	1388.5	1388.5	1388.5	1391.2
27.5°	1332.4	1335.2	1332.4	1332.4	1332.4	1332.4	1335.2	1332.4
30°	1268.3	1268.3	1268.3	1271.1	1276.3	1273.7	1273.7	1271.1
32.5°	1199.0	1201.6	1201.6	1204.2	1207.0	1212.3	1212.3	1215.0
35°	1129.5	1134.9	1137.5	1134.9	1142.9	1142.9	1148.2	1148.2
37.5°	1057.5	1060.1	1065.4	1068.1	1073.4	1076.2	1078.8	1078.8
40°	980.0	990.6	993.4	996.0	1004.0	1004.0	1006.7	1012.1
42.5°	907.8	918.6	921.3	923.9	929.3	937.3	934.6	940.0
45°	838.5	846.5	849.1	851.8	859.8	862.4	862.4	870.5
47.5°	763.7	769.0	771.8	777.0	782.4	787.7	793.1	790.4
50°	689.0	697.0	702.3	704.9	712.9	715.7	718.3	721.0
52.5°	622.1	627.5	630.1	632.9	640.8	643.6	646.2	651.6
55°	558.0	560.8	566.1	563.4	571.4	574.1	576.7	582.1
57.5°	494.1	496.7	499.3	499.3	504.7	510.0	512.7	515.4
60°	432.6	437.9	440.6	440.6	440.6	445.9	445.9	445.9
62.5°	376.5	376.5	379.2	379.2	384.6	384.6	384.6	384.6
65°	317.7	320.5	323.1	323.1	328.5	325.7	331.1	328.5
67.5°	256.4	256.4	261.6	261.6	259.0	261.6	261.6	261.6
70°	194.9	194.9	197.6	197.6	197.6	197.6	197.6	197.6
72.5°	144.2	144.2	144.2	146.9	144.2	144.2	146.9	144.2
75°	112.1	112.1	112.1	112.1	112.1	112.1	112.1	112.1
77.5°	88.2	88.2	90.8	90.8	90.8	90.8	90.8	90.8
80°	72.1	72.1	72.1	72.1	74.8	72.1	72.1	72.1
82.5°	53.4	50.7	53.4	50.7	53.4	53.4	53.4	53.4
85°	32.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
87.5°	13.3	13.3	13.3	13.3	13.3	13.3	13.3	13.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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













(END OF REPORT)