

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: P584472

Luminaire Tested: **HC835D010-HM82555930-81WWWB**

Issue Date: 10/21/2021

Test Information

Test Method: LM-41-14
Report Number: P584472
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-HM82555930-81WWWB
Description: HALO COMMERCIAL 8" ROUND, NEW CONSTRUCTION FRAME, WITH 8" WALLWASH DISTRIBUTION, BLACK BAFFLE TRIM
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3630.1 lumens
Efficiency: N/A
Efficacy: 107.7 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

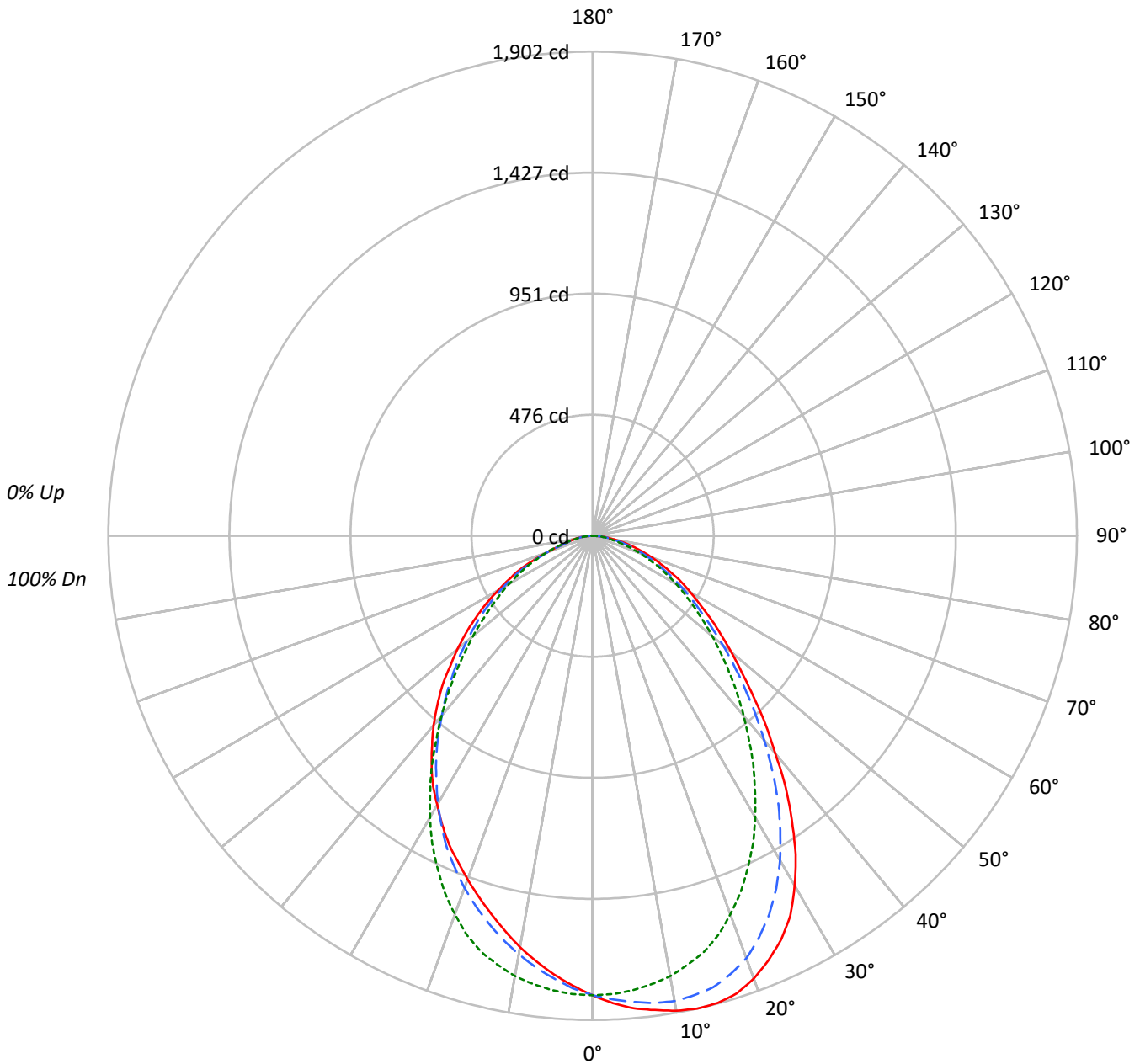
Input Watts (W): 33.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	55656	55656	55656
5°	57692	55473	53569
10°	59324	54993	51380
15°	60649	54022	49106
20°	60741	51907	47113
25°	59580	49022	45449
30°	56508	45463	43454
35°	51343	41405	41499
40°	44891	37150	39115
45°	38908	33095	36449
50°	34070	29398	33207
55°	30321	26053	30047
60°	27352	23399	26408
65°	24691	20576	23006
70°	22188	17338	17112
75°	19551	13749	12832
80°	16373	11383	12288
85°	12702	9977	10897



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	170.3	4.7
10°-20°	479.6	13.2
20°-30°	685.4	18.9
30°-40°	728.3	20.1
40°-50°	627.0	17.3
50°-60°	468.8	12.9
60°-70°	299.0	8.2
70°-80°	136.1	3.7
80°-90°	35.7	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°	1335.3	36.8
0°-40°	2063.5	56.8
0°-60°	3159.3	87.0
0°-90°	3630.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3630.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1805	1805	1805	1805	1805	
5°	1864	1838	1792	1746	1731	179
15°	1900	1836	1692	1577	1538	535
25°	1751	1641	1441	1354	1336	802
35°	1364	1269	1100	1072	1102	849
45°	892	844	759	779	836	694
55°	564	518	485	526	559	507
65°	338	300	282	295	315	337
75°	164	141	115	105	108	174
85°	36	31	28	31	31	43
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°	1804.9	1804.9	1804.9	1804.9	1804.9	1804.9	1804.9	1804.9	1804.9	1804.9	1804.9
2.5°	1838.2	1833.2	1835.7	1833.2	1835.7	1835.7	1830.5	1830.5	1830.5	1830.5	1822.9
5°	1863.8	1861.3	1861.3	1858.8	1856.2	1858.8	1856.2	1853.7	1848.5	1846.0	1838.2
7.5°	1879.3	1879.3	1879.3	1879.3	1876.7	1874.2	1871.6	1866.5	1861.3	1856.2	1851.0
10°	1894.6	1897.3	1894.6	1892.1	1889.5	1884.5	1881.8	1876.7	1869.0	1861.3	1856.2
12.5°	1902.3	1902.3	1899.8	1899.8	1894.6	1892.1	1884.5	1876.7	1869.0	1861.3	1848.5
15°	1899.8	1899.8	1897.3	1894.6	1887.0	1884.5	1879.3	1871.6	1858.8	1848.5	1835.7
17.5°	1884.5	1881.8	1876.7	1876.7	1866.5	1863.8	1858.8	1848.5	1835.7	1820.4	1804.9
20°	1851.0	1851.0	1848.5	1846.0	1835.7	1828.0	1822.9	1810.1	1799.8	1781.9	1766.5
22.5°	1804.9	1810.1	1804.9	1799.8	1786.9	1784.4	1776.8	1761.3	1746.0	1725.5	1707.5
25°	1751.1	1748.5	1746.0	1740.8	1730.6	1725.5	1715.2	1699.8	1684.4	1661.4	1640.9
27.5°	1681.9	1671.6	1671.6	1661.4	1653.7	1645.9	1640.9	1625.4	1605.0	1587.0	1561.4
30°	1587.0	1589.5	1576.7	1574.2	1561.4	1556.2	1546.0	1530.6	1512.6	1492.1	1471.6
32.5°	1484.4	1476.8	1476.8	1466.5	1456.3	1448.5	1446.0	1428.0	1412.7	1392.2	1371.6
35°	1363.9	1363.9	1356.3	1353.7	1343.4	1338.3	1330.6	1320.3	1302.5	1284.5	1269.0
37.5°	1246.0	1240.9	1238.4	1233.2	1225.6	1217.8	1217.8	1199.9	1197.3	1176.8	1156.3
40°	1115.2	1120.4	1115.2	1107.6	1105.0	1099.9	1097.4	1087.1	1079.4	1061.4	1048.6
42.5°	1005.0	999.9	999.9	997.3	987.0	987.0	982.0	976.8	964.0	958.9	943.4
45°	892.2	897.3	889.6	892.2	882.0	882.0	882.0	871.7	861.5	853.7	843.5
47.5°	794.8	797.4	797.4	789.6	787.1	787.1	781.9	776.8	769.1	758.9	751.1
50°	710.2	712.7	707.7	705.0	699.9	697.4	697.4	687.1	682.0	671.7	666.6
52.5°	633.3	633.3	630.7	630.7	623.0	623.0	617.9	610.1	605.1	600.0	587.1
55°	564.0	564.0	561.5	558.9	558.9	551.2	548.7	541.0	535.9	525.6	517.9
57.5°	497.4	499.9	497.4	494.8	492.3	489.7	484.6	476.9	471.8	464.1	459.0
60°	443.5	443.5	441.0	438.5	433.3	430.7	428.2	423.0	415.3	410.2	402.5
62.5°	392.2	389.7	387.2	384.6	379.4	379.4	374.4	369.2	361.6	356.4	351.3
65°	338.4	338.4	335.9	335.9	333.3	328.1	325.6	323.0	312.8	310.2	300.0
67.5°	289.7	292.3	287.2	287.2	282.0	282.0	279.5	271.7	269.2	264.0	258.9
70°	246.1	246.1	246.1	243.6	238.4	235.9	233.3	228.2	225.6	220.4	215.4
72.5°	202.6	202.6	199.9	199.9	197.4	194.8	192.3	187.1	187.1	182.0	176.9
75°	164.1	164.1	161.5	159.0	156.3	156.3	153.8	151.3	146.2	143.5	141.0
77.5°	125.7	125.7	125.7	123.0	120.5	120.5	120.5	115.4	110.2	110.2	107.7
80°	92.2	92.2	89.7	89.7	87.2	87.2	87.2	84.6	82.1	79.4	76.9
82.5°	61.6	61.6	61.6	61.6	58.9	58.9	58.9	56.4	53.8	53.8	53.8
85°	35.9	35.9	35.9	35.9	33.3	33.3	33.3	33.3	33.3	30.8	30.8
87.5°	15.3	12.8	15.3	12.8	15.3	12.8	15.3	12.8	12.8	12.8	12.8
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°	1804.9	1804.9	1804.9	1804.9	1804.9	1804.9	1804.9	1804.9	1804.9	1804.9	1804.9
2.5°	1825.4	1822.9	1820.4	1817.7	1817.7	1815.2	1810.1	1807.5	1804.9	1802.4	1802.4
5°	1835.7	1833.2	1828.0	1822.9	1820.4	1815.2	1810.1	1804.9	1799.8	1792.1	1789.6
7.5°	1843.4	1835.7	1830.5	1820.4	1817.7	1812.6	1804.9	1797.2	1786.9	1776.8	1769.1
10°	1843.4	1833.2	1825.4	1812.6	1807.5	1802.4	1792.1	1779.3	1766.5	1756.3	1743.4
12.5°	1838.2	1825.4	1812.6	1799.8	1792.1	1784.4	1769.1	1756.3	1740.8	1725.5	1715.2
15°	1820.4	1804.9	1789.6	1774.1	1766.5	1756.3	1740.8	1722.8	1707.5	1692.2	1674.2
17.5°	1786.9	1771.6	1753.6	1735.7	1725.5	1717.8	1694.7	1681.9	1658.8	1643.4	1628.1
20°	1743.4	1725.5	1702.4	1684.4	1671.6	1663.9	1645.9	1622.9	1605.0	1581.8	1566.5
22.5°	1687.0	1663.9	1640.9	1622.9	1610.1	1599.8	1576.7	1553.7	1538.2	1517.7	1499.8
25°	1620.3	1597.3	1574.2	1548.5	1535.7	1525.4	1504.9	1484.4	1464.0	1440.8	1425.5
27.5°	1540.9	1515.2	1494.7	1471.6	1458.8	1443.5	1420.3	1399.9	1379.4	1363.9	1343.4
30°	1453.7	1425.5	1405.0	1381.9	1369.1	1356.3	1333.1	1312.6	1294.7	1276.8	1266.5
32.5°	1348.6	1328.1	1307.5	1284.5	1274.2	1266.5	1243.4	1222.9	1202.4	1187.1	1179.3
35°	1248.6	1225.6	1207.6	1187.1	1174.3	1166.5	1146.0	1128.0	1117.9	1099.9	1089.6
37.5°	1143.5	1125.5	1105.0	1084.5	1076.8	1069.1	1053.8	1035.8	1020.5	1007.6	1002.5
40°	1033.3	1017.8	999.9	987.0	979.4	971.7	958.9	946.1	935.8	922.9	917.8
42.5°	928.1	917.8	902.5	887.1	879.3	876.8	861.5	851.2	846.0	840.9	835.8
45°	833.2	817.9	807.6	797.4	789.6	784.6	776.8	769.1	764.0	758.9	753.8
47.5°	741.0	728.1	717.8	710.2	702.5	699.9	694.8	687.1	682.0	682.0	682.0
50°	656.4	646.1	635.8	630.7	628.1	623.0	617.9	615.3	612.8	612.8	612.8
52.5°	582.0	571.7	564.0	558.9	558.9	553.8	548.7	546.0	546.0	546.0	546.0
55°	512.7	505.1	499.9	494.8	489.7	487.1	487.1	487.1	484.6	484.6	487.1
57.5°	451.3	446.1	438.5	433.3	430.7	430.7	428.2	425.6	428.2	430.7	433.3
60°	394.9	389.7	387.2	379.4	379.4	379.4	376.9	376.9	376.9	379.4	382.0
62.5°	343.6	341.0	335.9	333.3	330.8	330.8	328.1	328.1	328.1	328.1	330.8
65°	297.3	292.3	287.2	287.2	287.2	284.5	284.5	279.5	282.0	282.0	279.5
67.5°	253.9	248.7	246.1	243.6	241.0	241.0	238.4	235.9	233.3	233.3	233.3
70°	212.8	207.6	207.6	202.6	202.6	199.9	197.4	197.4	194.8	192.3	189.8
72.5°	171.8	169.2	166.6	164.1	164.1	164.1	161.5	159.0	156.3	153.8	148.7
75°	135.9	135.9	130.7	128.2	128.2	125.7	123.0	120.5	117.9	115.4	112.9
77.5°	105.1	102.5	97.4	94.9	94.9	94.9	92.2	89.7	87.2	84.6	82.1
80°	76.9	74.4	71.8	69.2	69.2	69.2	66.6	66.6	64.1	64.1	64.1
82.5°	51.3	51.3	48.8	48.8	48.8	48.8	46.1	46.1	46.1	46.1	46.1
85°	30.8	30.8	28.2	28.2	28.2	28.2	28.2	28.2	28.2	28.2	28.2
87.5°	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8
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°	1804.9	1804.9	1804.9	1804.9	1804.9	1804.9	1804.9	1804.9	1804.9	1804.9	1804.9
2.5°	1797.2	1797.2	1792.1	1789.6	1786.9	1789.6	1784.4	1781.9	1779.3	1779.3	1776.8
5°	1781.9	1779.3	1769.1	1766.5	1763.9	1761.3	1756.3	1751.1	1746.0	1743.4	1740.8
7.5°	1761.3	1753.6	1743.4	1740.8	1738.3	1730.6	1722.8	1717.8	1710.0	1707.5	1702.4
10°	1733.1	1722.8	1715.2	1707.5	1702.4	1694.7	1687.0	1679.4	1669.1	1666.5	1658.8
12.5°	1699.8	1687.0	1671.6	1669.1	1661.4	1651.1	1640.9	1633.1	1625.4	1620.3	1612.6
15°	1658.8	1645.9	1630.6	1622.9	1615.1	1607.5	1594.7	1584.5	1576.7	1569.0	1561.4
17.5°	1610.1	1594.7	1581.8	1574.2	1569.0	1556.2	1546.0	1533.2	1525.4	1517.7	1510.1
20°	1551.1	1538.2	1520.4	1512.6	1510.1	1499.8	1487.0	1481.9	1471.6	1464.0	1458.8
22.5°	1484.4	1471.6	1456.3	1451.1	1440.8	1435.7	1422.9	1417.8	1412.7	1405.0	1402.4
25°	1410.0	1397.2	1384.4	1381.9	1374.2	1369.1	1361.4	1353.7	1353.7	1346.0	1346.0
27.5°	1333.1	1320.3	1310.1	1305.0	1302.5	1297.3	1289.6	1287.0	1284.5	1281.9	1281.9
30°	1251.2	1235.7	1230.6	1228.1	1225.6	1220.4	1217.8	1212.7	1215.3	1217.8	1215.3
32.5°	1164.0	1158.8	1148.6	1143.5	1146.0	1143.5	1138.3	1143.5	1140.9	1146.0	1148.6
35°	1079.4	1074.2	1069.1	1069.1	1063.9	1063.9	1063.9	1066.6	1071.7	1074.2	1079.4
37.5°	997.3	989.7	987.0	984.5	987.0	987.0	987.0	992.2	997.3	1002.5	1010.2
40°	910.1	905.0	905.0	905.0	905.0	912.8	910.1	915.3	920.4	928.1	935.8
42.5°	828.1	828.1	830.7	830.7	830.7	830.7	835.8	843.5	851.2	858.8	866.5
45°	751.1	751.1	751.1	756.3	756.3	758.9	769.1	774.3	779.4	787.1	794.8
47.5°	679.4	679.4	682.0	684.5	687.1	692.2	697.4	705.0	712.7	717.8	725.5
50°	612.8	615.3	620.4	625.6	625.6	628.1	635.8	640.9	646.1	653.7	656.4
52.5°	548.7	553.8	558.9	561.5	564.0	569.2	571.7	579.5	582.0	589.7	592.3
55°	489.7	492.3	499.9	502.6	502.6	507.6	512.7	517.9	525.6	525.6	530.7
57.5°	435.8	438.5	443.5	446.1	443.5	451.3	453.8	459.0	461.5	466.6	469.1
60°	382.0	387.2	389.7	389.7	392.2	394.9	400.0	400.0	405.0	410.2	410.2
62.5°	330.8	333.3	335.9	338.4	341.0	338.4	346.1	346.1	351.3	353.8	358.9
65°	282.0	284.5	284.5	287.2	287.2	289.7	289.7	292.3	294.8	300.0	302.5
67.5°	233.3	233.3	233.3	235.9	233.3	235.9	235.9	238.4	238.4	243.6	246.1
70°	189.8	187.1	184.6	184.6	184.6	184.6	182.0	184.6	184.6	187.1	187.1
72.5°	146.2	143.5	141.0	138.5	138.5	135.9	133.3	135.9	135.9	138.5	138.5
75°	110.2	105.1	105.1	105.1	102.5	102.5	102.5	105.1	105.1	105.1	107.7
77.5°	82.1	82.1	79.4	79.4	79.4	82.1	82.1	84.6	84.6	84.6	84.6
80°	61.6	64.1	64.1	64.1	64.1	66.6	66.6	66.6	66.6	69.2	69.2
82.5°	46.1	46.1	46.1	46.1	48.8	48.8	48.8	48.8	48.8	48.8	48.8
85°	28.2	30.8	30.8	28.2	30.8	30.8	30.8	30.8	30.8	30.8	30.8
87.5°	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8
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: P584472

CATALOG NUMBER: HC835D010-HM82555930-81WWWB

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1804.9	1804.9	1804.9	1804.9	1804.9	1804.9	1804.9	1804.9
2.5°	1774.1	1774.1	1774.1	1774.1	1771.6	1771.6	1771.6	1769.1
5°	1735.7	1735.7	1735.7	1730.6	1733.1	1733.1	1728.0	1730.6
7.5°	1697.2	1694.7	1692.2	1692.2	1689.5	1687.0	1684.4	1687.0
10°	1653.7	1645.9	1645.9	1643.4	1643.4	1638.3	1638.3	1640.9
12.5°	1605.0	1599.8	1599.8	1597.3	1594.7	1592.1	1589.5	1589.5
15°	1556.2	1551.1	1548.5	1546.0	1543.4	1538.2	1540.9	1538.2
17.5°	1507.6	1499.8	1499.8	1497.3	1494.7	1489.6	1489.6	1487.0
20°	1451.1	1448.5	1443.5	1446.0	1443.5	1438.3	1435.7	1435.7
22.5°	1394.7	1394.7	1392.2	1392.2	1389.6	1387.0	1384.4	1384.4
25°	1340.9	1338.3	1340.9	1340.9	1333.1	1333.1	1333.1	1335.8
27.5°	1279.3	1281.9	1279.3	1279.3	1279.3	1279.3	1281.9	1279.3
30°	1217.8	1217.8	1217.8	1220.4	1225.6	1222.9	1222.9	1220.4
32.5°	1151.2	1153.7	1153.7	1156.3	1158.8	1164.0	1164.0	1166.5
35°	1084.5	1089.6	1092.2	1089.6	1097.4	1097.4	1102.4	1102.4
37.5°	1015.3	1017.8	1023.0	1025.5	1030.6	1033.3	1035.8	1035.8
40°	940.9	951.2	953.7	956.2	964.0	964.0	966.5	971.7
42.5°	871.7	882.0	884.5	887.1	892.2	899.9	897.3	902.5
45°	805.1	812.7	815.2	817.9	825.5	828.1	828.1	835.8
47.5°	733.3	738.3	741.0	746.1	751.1	756.3	761.4	758.9
50°	661.4	669.2	674.2	676.9	684.5	687.1	689.7	692.2
52.5°	597.3	602.5	605.1	607.6	615.3	617.9	620.4	625.6
55°	535.9	538.4	543.5	541.0	548.7	551.2	553.8	558.9
57.5°	474.3	476.9	479.4	479.4	484.6	489.7	492.3	494.8
60°	415.3	420.5	423.0	423.0	423.0	428.2	428.2	428.2
62.5°	361.6	361.6	364.1	364.1	369.2	369.2	369.2	369.2
65°	305.1	307.6	310.2	310.2	315.3	312.8	317.9	315.3
67.5°	246.1	246.1	251.2	251.2	248.7	251.2	251.2	251.2
70°	187.1	187.1	189.8	189.8	189.8	189.8	189.8	189.8
72.5°	138.5	138.5	138.5	141.0	138.5	138.5	141.0	138.5
75°	107.7	107.7	107.7	107.7	107.7	107.7	107.7	107.7
77.5°	84.6	84.6	87.2	87.2	87.2	87.2	87.2	87.2
80°	69.2	69.2	69.2	69.2	71.8	69.2	69.2	69.2
82.5°	51.3	48.8	51.3	48.8	51.3	51.3	51.3	51.3
85°	30.8	30.8	30.8	30.8	30.8	30.8	30.8	30.8
87.5°	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8
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)