

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

Report Number: P189448

Luminaire Tested: **ML4D09NFL930-TIR50AWW25-TL43R2GMWWB_TL44S2GMWWB**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: P189448
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P27795)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: HALO
Catalog Number: ML4D09NFL930-TIR50AWW25-TL43R2GMWWB_TL44S2GMWWB
Description: ML4 RECESSED DOWNLIGHT WITH ASYMMETRIC OPTIC WITH LENSED ROUND WHITE TRIM (OR SQUARE)
Light Source: CITIZEN 3000K
CLU711
Ballast/Driver: UNV-120-277 ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 683.5 lumens
Efficiency: N/A
Efficacy: 61.0 lumens/watt
Spacing Criteria (0/90/45): 1.51 / 0.58 / 0.91
Luminous Opening: Circular (Dia: 0.33' x H: 0')
CIE Type: Direct

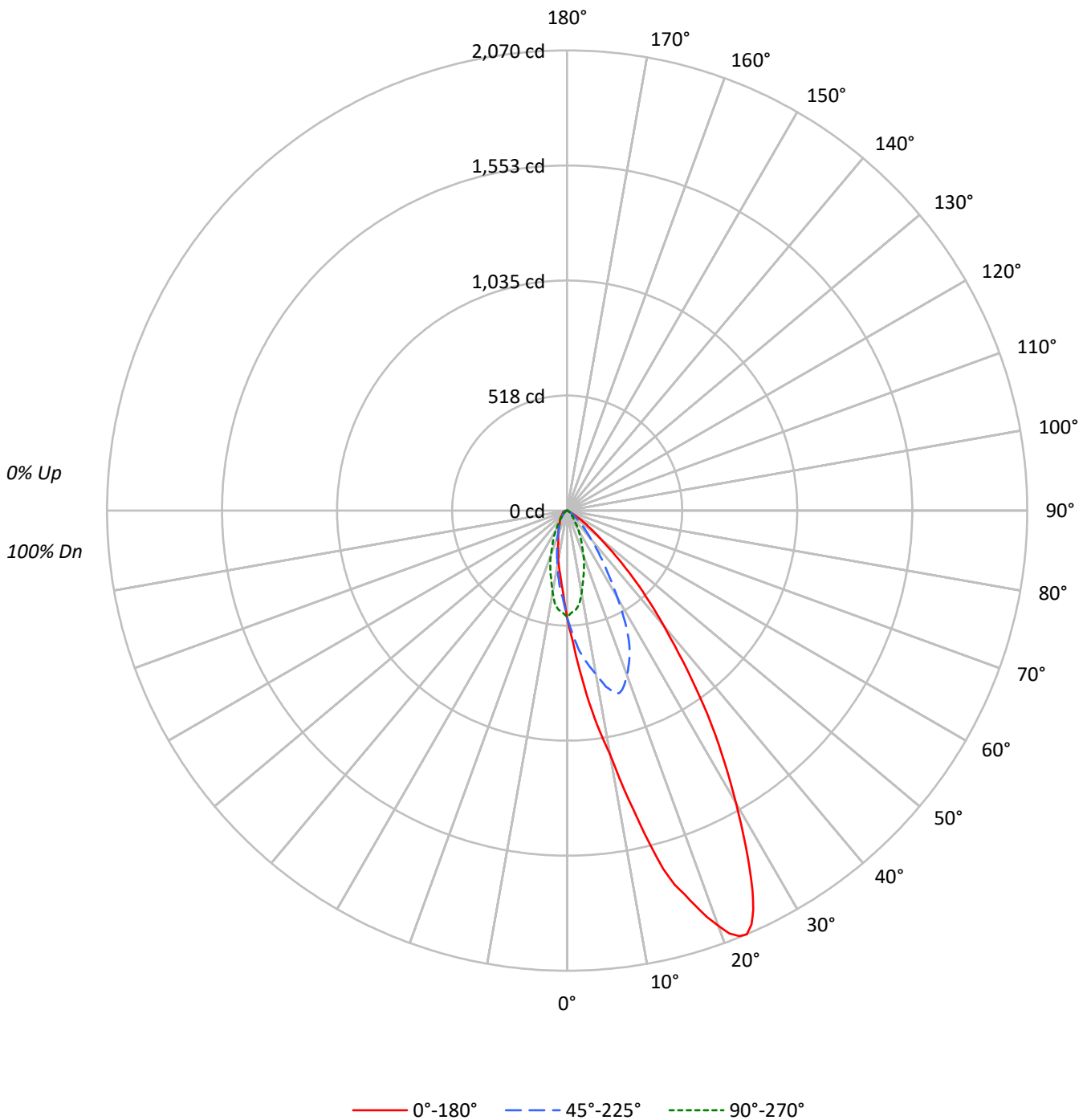
Input Watts (W): 11.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	113	109	107	104	110	107	105	102	103	101	99	99	98	96	96	95	93	92					92			
2	106	101	96	92	104	99	95	91	96	92	89	93	90	87	90	87	85	84					84			
3	100	93	87	83	98	91	86	82	89	84	81	86	82	79	84	81	78	76					76			
4	94	86	79	75	92	84	79	74	82	77	73	80	76	72	78	75	72	70					70			
5	89	79	73	68	87	78	72	68	77	71	67	75	70	66	73	69	66	64					64			
6	84	74	67	62	82	73	67	62	71	66	62	70	65	61	69	64	61	59					59			
7	79	69	62	57	78	68	62	57	67	61	57	65	60	57	64	60	56	55					55			
8	75	64	58	53	73	64	57	53	62	57	53	61	56	52	60	56	52	51					51			
9	71	60	54	49	70	60	53	49	59	53	49	58	52	49	57	52	49	47					47			
10	67	56	50	46	66	56	50	46	55	50	46	54	49	46	54	49	45	44					44			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	59107	59107	59107
5°	93036	55482	38755
10°	139639	46993	28369
15°	212998	36866	19857
20°	260659	28326	15436
25°	269608	20238	11772
30°	216518	14542	9557
35°	161298	9366	8628
40°	108622	6891	7664
45°	68501	5094	6611
50°	36555	3915	5411
55°	18817	2925	5441
60°	6710	2393	5279
65°	1985	1985	5662
70°	685	2092	5951
75°	905	2335	6481
80°	1350	2770	6890
85°	1415	2689	5519



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.5	7.0
10°-20°	154.7	22.6
20°-30°	213.8	31.3
30°-40°	148.6	21.7
40°-50°	71.8	10.5
50°-60°	27.0	3.9
60°-70°	10.6	1.5
70°-80°	6.8	1.0
80°-90°	2.7	0.4
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°	416.1	60.9
0°-40°	564.7	82.6
0°-60°	663.4	97.1
0°-90°	683.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	683.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	479	479	479	479	479	
5°	751	634	448	353	313	83
15°	1668	853	289	178	156	470
25°	1981	660	149	88	86	871
35°	1071	280	62	47	57	666
45°	393	100	29	27	38	310
55°	88	27	14	18	25	84
65°	7	5	7	15	19	9
75°	2	3	5	11	14	2
85°	1	1	2	4	4	1
90°	0	0	0	0	0	



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CATALOG NUMBER: ML4D09NFL930-TIR50AWW25-TL43R2GMWWB_TL44S2GMWWB

CANDELA DISTRIBUTION (FULL):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
0°	479.2	479.2	479.2	479.2	479.2	479.2	479.2	479.2	479.2	479.2	479.2
2.5°	591.0	594.9	600.7	597.8	583.2	590.0	588.1	594.9	589.0	591.0	580.3
5°	751.4	740.7	742.6	742.6	724.1	725.1	725.1	723.2	718.3	712.5	689.2
7.5°	940.9	926.3	913.7	920.5	912.7	898.1	879.7	872.9	866.1	842.7	829.1
10°	1114.9	1141.1	1131.4	1130.5	1121.7	1102.3	1060.5	1061.4	1041.0	1008.0	996.3
12.5°	1379.3	1382.2	1372.5	1351.1	1328.7	1320.0	1284.0	1276.3	1234.5	1204.3	1159.6
15°	1668.0	1631.0	1630.1	1608.7	1547.4	1532.9	1504.7	1464.8	1412.3	1371.5	1284.0
16°	1749.6	1723.4	1711.7	1695.2	1638.8	1609.7	1577.6	1524.1	1469.7	1414.3	1325.8
17°	1804.1	1810.9	1785.6	1767.1	1727.3	1683.5	1639.8	1574.7	1519.3	1448.3	1365.7
18°	1870.2	1892.5	1847.8	1840.0	1811.8	1751.6	1692.3	1620.3	1562.0	1477.5	1405.5
19°	1935.3	1961.5	1910.0	1900.3	1881.8	1809.9	1733.1	1660.2	1595.1	1500.8	1437.6
20°	1985.8	2009.2	1962.5	1945.0	1931.4	1850.7	1761.3	1691.3	1619.4	1521.2	1460.0
21°	2038.3	2037.3	2004.3	1971.2	1951.8	1872.1	1780.7	1713.7	1632.0	1534.8	1470.7
22°	2064.6	2042.2	2025.7	1976.1	1942.1	1872.1	1786.6	1719.5	1630.1	1537.7	1461.9
23°	2070.4	2032.5	2024.7	1964.4	1910.0	1854.6	1778.8	1710.7	1611.6	1529.0	1434.7
24°	2038.3	2000.4	1998.5	1935.3	1862.4	1818.6	1755.5	1679.6	1577.6	1500.8	1390.0
25°	1981.0	1949.9	1943.1	1891.5	1806.0	1766.1	1711.7	1629.1	1529.0	1460.9	1334.6
26°	1901.3	1882.8	1867.2	1831.3	1742.8	1711.7	1649.5	1560.1	1467.7	1395.8	1272.4
27°	1809.9	1806.0	1789.5	1755.5	1677.7	1637.8	1575.6	1480.4	1397.8	1320.0	1208.2
28°	1711.7	1719.5	1693.2	1668.0	1604.8	1555.2	1489.1	1393.9	1320.0	1235.4	1143.1
29°	1615.5	1628.1	1595.1	1574.7	1528.0	1458.0	1397.8	1307.4	1238.3	1152.8	1077.0
30°	1520.2	1530.9	1497.9	1477.5	1441.5	1381.2	1304.4	1221.8	1155.7	1073.1	1008.9
31°	1425.9	1428.9	1391.9	1365.7	1348.2	1286.9	1211.1	1139.2	1075.0	997.3	938.0
32°	1335.5	1326.8	1302.5	1268.5	1248.1	1193.6	1123.6	1061.4	996.3	924.4	866.1
33°	1248.1	1229.6	1217.0	1174.2	1147.0	1103.2	1041.0	986.6	920.5	856.3	792.2
34°	1161.6	1137.3	1131.4	1085.7	1048.8	1017.7	964.2	912.7	845.7	790.2	721.2
35°	1071.2	1048.8	1044.9	1004.1	959.4	939.0	891.3	839.8	774.7	725.1	651.2
36°	982.7	966.2	962.3	927.3	880.6	863.1	818.4	768.9	707.6	661.9	588.1
37°	897.2	888.4	880.6	855.4	810.7	791.2	750.4	700.8	645.4	598.8	531.7
38°	816.5	816.5	802.9	785.4	747.5	724.1	684.3	635.7	587.1	539.5	481.1
39°	741.6	747.5	730.0	717.3	686.2	659.0	621.1	573.5	530.7	483.1	435.5
40°	674.6	689.2	661.0	651.2	626.9	597.8	559.9	516.1	478.2	432.5	394.6
42.5°	524.9	529.7	511.3	495.7	482.1	455.9	422.8	393.7	363.5	330.5	304.2
45°	392.7	389.8	382.0	362.6	347.0	333.4	313.0	293.5	269.2	248.8	223.6
47.5°	276.1	279.9	272.2	266.3	245.9	240.1	226.5	214.8	195.4	178.9	158.4
50°	190.5	196.3	186.6	186.6	175.9	168.2	158.4	147.7	138.0	124.4	113.7
52.5°	133.2	134.1	129.3	129.3	123.4	116.6	109.8	103.0	96.2	87.5	80.7
55°	87.5	87.5	85.5	83.6	79.7	75.8	71.9	69.0	64.2	59.3	53.5
57.5°	51.5	52.5	50.5	49.6	46.7	45.7	42.8	41.8	38.9	36.0	33.0
60°	27.2	28.2	27.2	27.2	26.2	25.3	24.3	23.3	22.4	20.4	18.5
62.5°	13.6	14.6	13.6	14.6	14.6	12.6	12.6	12.6	11.7	11.7	10.7
65°	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	5.8	5.8
67.5°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
70°	1.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
72.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.9



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CANDELA DISTRIBUTION (continued):

	0°	2.5°	5°	7.5°	10°	12.5°	15°	17.5°	20°	22.5°	25°
75°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
77.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
80°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
82.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
85°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
87.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	47.5°	50°	52.5°
0°	479.2	479.2	479.2	479.2	479.2	479.2	479.2	479.2	479.2	479.2	479.2
2.5°	575.4	575.4	572.5	567.7	551.1	548.2	552.1	554.0	535.6	543.4	532.7
5°	691.1	675.5	673.6	665.8	654.2	644.4	635.7	633.8	612.4	606.5	590.0
7.5°	822.3	794.1	773.7	773.7	765.9	742.6	715.4	693.0	689.2	654.2	637.6
10°	966.2	935.1	900.1	882.6	850.5	819.4	788.3	747.5	734.8	695.0	671.7
12.5°	1111.0	1078.0	1030.3	984.6	922.4	881.6	850.5	811.6	757.2	732.9	692.1
15°	1240.3	1177.1	1136.3	1065.3	999.2	942.9	893.3	853.4	778.6	743.6	691.1
16°	1279.2	1203.4	1154.8	1085.7	1024.5	962.3	900.1	853.4	782.5	735.8	682.4
17°	1311.2	1225.7	1164.5	1099.3	1043.9	974.0	901.1	843.7	783.4	722.2	671.7
18°	1337.5	1248.1	1171.3	1109.1	1053.7	977.8	895.2	828.2	778.6	704.7	656.1
19°	1356.9	1267.5	1174.2	1111.0	1050.7	970.1	884.5	807.7	764.0	684.3	636.7
20°	1366.7	1277.2	1174.2	1105.2	1034.2	952.6	865.1	786.4	741.6	663.9	614.3
21°	1364.7	1279.2	1170.3	1089.6	1007.0	925.4	845.7	765.0	711.5	642.5	591.0
22°	1349.2	1265.6	1160.6	1066.3	974.0	894.3	819.4	741.6	677.5	619.2	565.7
23°	1321.9	1240.3	1143.1	1037.1	939.0	860.2	788.3	717.3	642.5	593.9	537.5
24°	1286.0	1200.4	1113.9	1001.2	904.0	824.3	755.3	691.1	612.4	565.7	509.3
25°	1239.3	1148.9	1072.1	958.4	868.0	788.3	717.3	660.0	580.3	534.6	479.2
26°	1192.7	1089.6	1016.7	916.6	829.1	751.4	677.5	624.0	548.2	500.6	449.1
27°	1132.4	1028.4	955.5	865.1	789.3	712.5	635.7	583.2	517.1	464.6	418.9
28°	1067.3	966.2	889.4	810.7	744.6	669.7	592.0	538.5	485.0	428.7	387.8
29°	1000.2	904.9	825.2	756.2	696.0	624.0	547.2	493.8	452.0	392.7	357.7
30°	931.2	843.7	763.0	706.7	640.6	573.5	502.5	451.0	416.0	359.6	327.6
31°	861.2	781.5	702.8	649.3	582.2	522.0	459.8	410.2	379.1	328.5	299.4
32°	790.2	720.3	646.4	591.0	523.9	470.5	418.9	373.3	341.2	304.2	273.1
33°	721.2	658.1	585.2	535.6	469.5	421.9	378.1	339.2	305.2	276.1	247.9
34°	656.1	598.8	534.6	484.1	421.9	378.1	341.2	309.1	273.1	251.8	223.6
35°	594.9	539.5	486.0	436.4	380.1	340.2	307.2	279.9	244.9	227.5	200.2
36°	539.5	484.1	438.4	394.6	344.1	308.1	277.0	253.7	220.6	202.2	179.8
37°	487.0	429.6	392.7	355.8	312.0	279.0	249.8	229.4	200.2	182.7	162.3
38°	441.3	386.9	352.8	316.9	283.8	253.7	225.5	207.0	180.8	164.3	146.8
39°	397.6	353.8	314.9	285.8	257.6	230.4	203.2	184.7	165.2	147.7	133.2
40°	358.7	319.8	282.9	261.5	233.3	209.0	184.7	165.2	150.7	132.2	120.5
42.5°	275.1	248.8	220.6	199.3	175.9	158.4	142.9	127.3	116.6	104.0	95.3
45°	203.2	184.7	168.2	148.7	133.2	119.6	110.8	100.1	88.5	82.6	74.8
47.5°	147.7	133.2	124.4	110.8	100.1	90.4	83.6	76.8	68.0	63.2	57.3
50°	105.9	96.2	88.5	80.7	74.8	68.0	61.2	56.4	50.5	46.7	42.8
52.5°	75.8	69.0	62.2	57.3	53.5	48.6	43.7	39.9	37.9	34.0	31.1
55°	50.5	46.7	41.8	38.9	35.0	32.1	30.1	27.2	25.3	24.3	22.4
57.5°	31.1	28.2	27.2	24.3	22.4	20.4	19.4	18.5	17.5	16.5	15.6
60°	17.5	16.5	15.6	15.6	14.6	13.6	12.6	12.6	11.7	10.7	10.7
62.5°	10.7	9.7	9.7	8.7	8.7	8.7	7.8	7.8	7.8	6.8	6.8
65°	5.8	5.8	5.8	5.8	5.8	5.8	4.9	4.9	5.8	5.8	4.9
67.5°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9
70°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	3.9
72.5°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9



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CANDELA DISTRIBUTION (continued):

	27.5°	30°	32.5°	35°	37.5°	40°	42.5°	45°	47.5°	50°	52.5°
75°	1.9	1.9	1.9	1.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
77.5°	1.9	1.9	1.9	1.9	1.9	2.9	2.9	2.9	2.9	2.9	2.9
80°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.9	2.9
82.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
85°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.9	1.0	1.9
87.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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):

	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°	77.5°	80°
0°	479.2	479.2	479.2	479.2	479.2	479.2	479.2	479.2	479.2	479.2	479.2
2.5°	529.7	523.9	530.7	524.9	512.3	508.4	509.3	494.8	488.0	481.1	479.2
5°	581.3	572.5	560.9	550.2	536.6	528.8	516.1	503.5	492.8	492.8	474.3
7.5°	621.1	604.6	576.4	558.9	550.2	532.7	510.3	505.4	491.8	482.1	463.7
10°	643.5	616.3	589.0	564.7	547.2	521.0	502.5	487.0	470.5	443.2	434.5
12.5°	653.2	616.3	594.9	562.8	525.9	501.6	483.1	451.0	429.6	404.4	389.8
15°	645.4	604.6	569.6	534.6	492.8	468.5	440.3	408.2	385.9	370.3	344.1
16°	634.7	593.9	550.2	514.2	476.3	450.0	416.0	390.7	369.4	355.8	327.6
17°	621.1	578.3	527.8	491.8	457.8	430.6	393.7	374.2	352.8	339.2	312.0
18°	604.6	559.9	506.4	469.5	440.3	409.2	375.2	357.7	337.3	320.8	296.5
19°	586.1	538.5	488.0	449.1	422.8	388.8	356.7	339.2	319.8	301.3	280.9
20°	562.8	515.2	468.5	428.7	401.4	368.4	339.2	320.8	301.3	279.9	265.4
21°	538.5	489.9	448.1	409.2	380.1	348.0	321.7	301.3	282.9	260.5	248.8
22°	512.3	463.7	428.7	389.8	357.7	329.5	305.2	281.9	264.4	243.0	232.3
23°	486.0	438.4	407.3	370.3	335.3	309.1	287.7	262.4	245.9	227.5	215.8
24°	458.8	414.1	383.9	349.0	313.0	290.6	269.2	244.0	228.4	213.8	200.2
25°	431.6	389.8	359.6	325.6	292.6	271.2	249.8	227.5	212.9	200.2	184.7
26°	403.4	365.5	332.4	304.2	272.2	252.7	230.4	211.9	197.3	186.6	172.0
27°	376.2	340.2	306.2	279.9	252.7	235.2	211.9	196.3	183.7	175.0	160.4
28°	348.0	314.9	280.9	257.6	235.2	217.7	194.4	182.7	172.0	163.3	149.7
29°	321.7	290.6	258.6	237.2	217.7	200.2	179.8	170.1	159.4	150.7	139.0
30°	296.5	266.3	238.1	217.7	200.2	182.7	166.2	156.5	147.7	137.1	128.3
31°	271.2	244.0	218.7	200.2	182.7	168.2	153.6	143.9	135.1	124.4	117.6
32°	246.9	221.6	200.2	182.7	167.2	153.6	141.9	131.2	122.5	112.8	106.9
33°	223.6	200.2	182.7	168.2	151.6	140.9	130.2	119.6	111.8	102.1	97.2
34°	201.2	180.8	167.2	153.6	138.0	128.3	119.6	107.9	101.1	93.3	88.5
35°	180.8	164.3	151.6	139.0	124.4	116.6	107.9	97.2	91.4	85.5	79.7
36°	163.3	148.7	136.1	125.4	112.8	105.9	97.2	88.5	82.6	77.8	72.9
37°	147.7	134.1	122.5	112.8	102.1	96.2	87.5	80.7	75.8	71.9	66.1
38°	134.1	122.5	109.8	102.1	92.3	87.5	77.8	73.9	69.0	66.1	61.2
39°	120.5	109.8	99.1	91.4	84.6	78.7	71.0	67.1	63.2	60.3	56.4
40°	108.9	99.1	89.4	82.6	76.8	71.0	65.1	61.2	58.3	55.4	51.5
42.5°	85.5	78.7	71.9	66.1	61.2	56.4	53.5	49.6	46.7	43.7	41.8
45°	67.1	62.2	58.3	53.5	48.6	44.7	42.8	38.9	36.9	35.0	34.0
47.5°	51.5	47.6	44.7	41.8	37.9	36.0	33.0	31.1	29.2	29.2	27.2
50°	38.9	36.0	33.0	31.1	29.2	27.2	25.3	24.3	23.3	23.3	22.4
52.5°	29.2	26.2	25.3	23.3	22.4	21.4	20.4	19.4	18.5	17.5	17.5
55°	20.4	19.4	18.5	17.5	16.5	15.6	15.6	14.6	14.6	13.6	13.6
57.5°	14.6	13.6	13.6	12.6	12.6	11.7	11.7	11.7	10.7	11.7	10.7
60°	9.7	9.7	9.7	9.7	9.7	8.7	8.7	8.7	8.7	8.7	8.7
62.5°	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	6.8	7.8
65°	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
67.5°	3.9	3.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	4.9	5.8
70°	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	4.9	4.9
72.5°	2.9	2.9	2.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	4.9



TEST NUMBER: P189448

CATALOG NUMBER: ML4D09NFL930-TIR50AWW25-TL43R2GMWWB_TL44S2GMWWB

CANDELA DISTRIBUTION (continued):

	55°	57.5°	60°	62.5°	65°	67.5°	70°	72.5°	75°	77.5°	80°
75°	2.9	2.9	2.9	2.9	2.9	3.9	3.9	3.9	3.9	3.9	3.9
77.5°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	3.9	3.9	3.9
80°	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
82.5°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	2.9	2.9	2.9
85°	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9
87.5°	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
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: P189448

CATALOG NUMBER: ML4D09NFL930-TIR50AWW25-TL43R2GMWWB_TL44S2GMWWB

CANDELA DISTRIBUTION (continued):

	82.5°	85°	87.5°	90°	112.5°	135°	157.5°	180°
0°	479.2	479.2	479.2	479.2	479.2	479.2	479.2	479.2
2.5°	483.1	480.2	468.5	458.8	427.7	401.4	392.7	378.1
5°	473.4	457.8	452.0	448.1	383.0	352.8	321.7	313.0
7.5°	445.2	430.6	427.7	422.8	343.1	301.3	271.2	266.3
10°	411.2	400.5	387.8	375.2	298.4	250.8	231.3	226.5
12.5°	377.1	364.5	343.1	326.6	250.8	209.0	195.4	186.6
15°	335.3	315.9	300.4	288.7	211.9	177.9	162.3	155.5
16°	315.9	296.5	283.8	275.1	196.3	167.2	151.6	145.8
17°	296.5	278.0	268.3	260.5	184.7	156.5	140.9	138.0
18°	278.0	262.4	253.7	246.9	174.0	145.8	132.2	130.2
19°	261.5	247.9	240.1	231.3	164.3	136.1	124.4	124.4
20°	245.9	234.3	225.5	215.8	153.6	126.4	118.6	117.6
21°	231.3	221.6	210.9	198.3	143.9	117.6	111.8	111.8
22°	218.7	207.0	195.4	183.7	134.1	108.9	105.9	105.9
23°	205.1	194.4	181.8	170.1	124.4	101.1	100.1	99.1
24°	191.5	180.8	169.1	159.4	114.7	95.3	94.3	92.3
25°	178.9	167.2	156.5	148.7	105.9	88.5	87.5	86.5
26°	166.2	155.5	145.8	139.0	98.2	83.6	81.6	81.6
27°	153.6	142.9	135.1	130.2	91.4	78.7	75.8	76.8
28°	140.9	131.2	125.4	120.5	84.6	73.9	71.0	72.9
29°	129.3	121.5	116.6	111.8	78.7	69.0	67.1	69.0
30°	118.6	111.8	106.9	102.1	72.9	64.2	64.2	67.1
31°	107.9	103.0	97.2	92.3	67.1	59.3	61.2	65.1
32°	99.1	94.3	88.5	83.6	62.2	55.4	59.3	63.2
33°	91.4	87.5	80.7	75.8	57.3	52.5	57.3	61.2
34°	83.6	79.7	72.9	68.0	52.5	49.6	55.4	59.3
35°	76.8	71.9	66.1	62.2	47.6	46.7	53.5	57.3
36°	70.0	65.1	60.3	57.3	43.7	44.7	51.5	55.4
37°	63.2	59.3	55.4	53.5	40.8	42.8	49.6	53.5
38°	57.3	54.4	51.5	49.6	38.9	40.8	47.6	51.5
39°	52.5	49.6	47.6	45.7	36.9	38.9	44.7	49.6
40°	47.6	45.7	43.7	42.8	35.0	36.9	42.8	47.6
42.5°	38.9	37.9	36.9	35.0	30.1	32.1	37.9	42.8
45°	32.1	32.1	30.1	29.2	26.2	27.2	34.0	37.9
47.5°	26.2	25.3	24.3	24.3	22.4	24.3	29.2	32.1
50°	21.4	20.4	20.4	20.4	19.4	22.4	26.2	28.2
52.5°	16.5	16.5	16.5	16.5	17.5	20.4	24.3	26.2
55°	13.6	13.6	13.6	13.6	15.6	18.5	23.3	25.3
57.5°	11.7	10.7	10.7	10.7	13.6	17.5	21.4	23.3
60°	8.7	8.7	8.7	9.7	12.6	16.5	20.4	21.4
62.5°	7.8	7.8	7.8	7.8	11.7	15.6	18.5	20.4
65°	6.8	6.8	6.8	6.8	10.7	14.6	18.5	19.4
67.5°	5.8	5.8	5.8	5.8	9.7	13.6	17.5	18.5
70°	4.9	4.9	4.9	5.8	8.7	12.6	15.6	16.5
72.5°	4.9	4.9	4.9	5.8	7.8	11.7	14.6	15.6



TEST NUMBER: P189448

CATALOG NUMBER: ML4D09NFL930-TIR50AWW25-TL43R2GMWWB_TL44S2GMWWB

CANDELA DISTRIBUTION (continued):

	82.5°	85°	87.5°	90°	112.5°	135°	157.5°	180°
75°	3.9	4.9	4.9	4.9	7.8	10.7	12.6	13.6
77.5°	3.9	3.9	3.9	3.9	6.8	8.7	11.7	12.6
80°	3.9	3.9	3.9	3.9	4.9	7.8	9.7	9.7
82.5°	2.9	2.9	2.9	2.9	3.9	5.8	6.8	6.8
85°	1.9	1.9	1.9	1.9	2.9	3.9	3.9	3.9
87.5°	1.0	1.0	1.0	1.0	1.9	1.9	1.9	1.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)