

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P645954

Luminaire Tested: **FLDSQ4C30D010 FEU4C309030 F4LC-SQLWW-H-D2W**

Issue Date: 12/13/2022

Test Information

Test Method: LM-79-08
Report Number: P645954
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P219529)
Test Lab: INNOVATION CENTER
Issue Date: 12/13/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FLDSQ4C30D010 FEU4C309030 F4LC-SQLWW-H-D2W
Description: 4 INCH 3000 LUMEN FAIL-SAFE LED DOWNLIGHT WITH, 3000K, 90CRI LEDS AND F4LC-SQLWW TRIM WITH H FINISH, DIM TO WARM
Light Source: -
Ballast/Driver: -

Summary

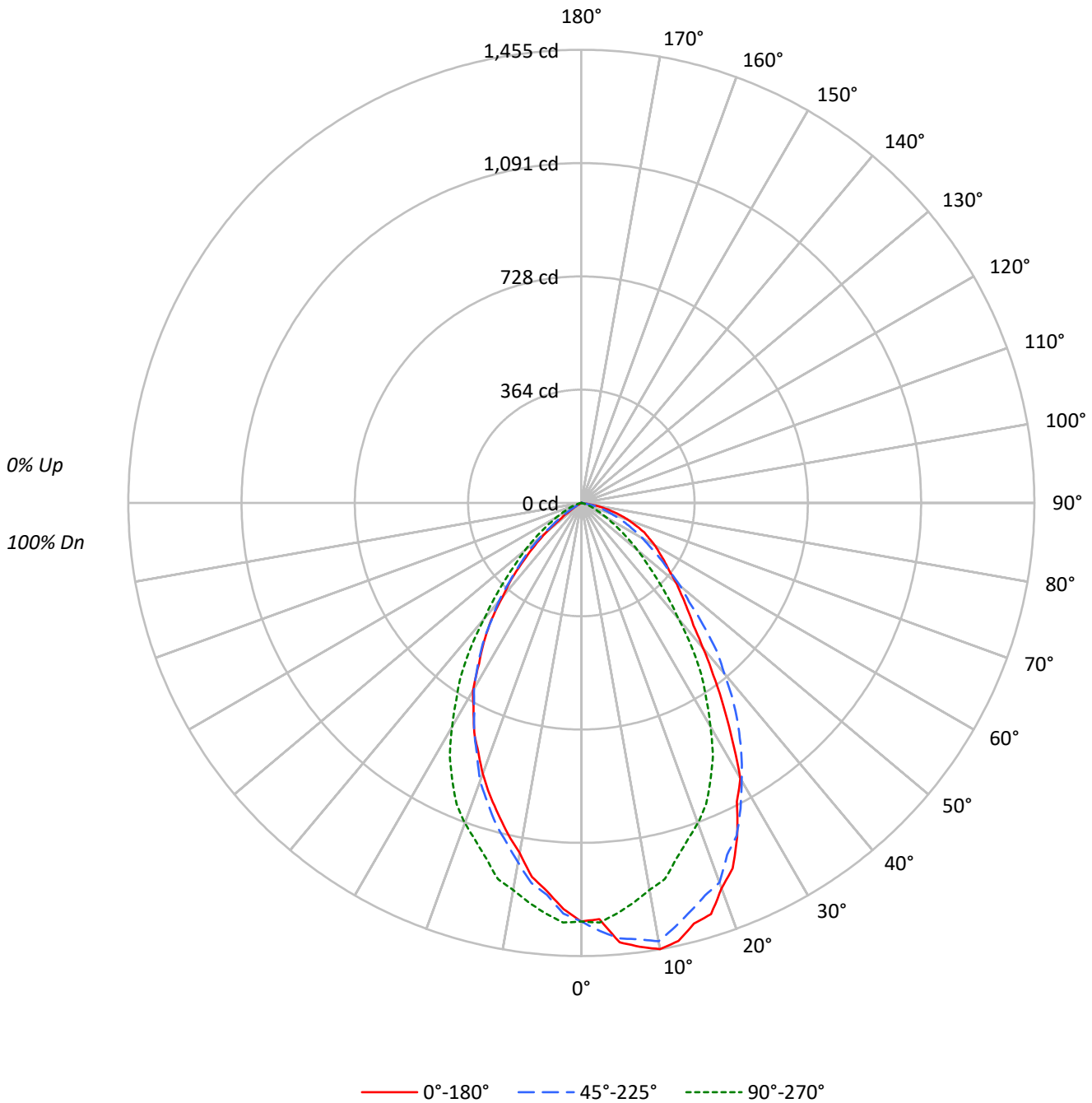
Lumens per Lamp: N/A
Luminaire Lumens: 1926.0 lumens
Efficiency: N/A
Efficacy: 60.9 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 1 / 1.06
Luminous Opening: Rectangular (W 0.33' x L: 0.33' x H: 0')
CIE Type: Direct

Input Watts (W): 31.6
Input Voltage (V):
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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CATALOG NUMBER: FLDSQ4C30D010 FEU4C309030 F4LC-SQLWW-H-D2W

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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	108	105	102	109	106	103	101	102	100	98	98	96	95	95	93	92	90
2	104	98	93	89	102	96	92	88	93	89	86	90	87	84	87	84	82	80
3	97	89	83	78	95	88	82	77	85	80	76	82	78	75	80	77	74	72
4	91	81	74	69	89	80	74	69	78	72	68	76	71	67	74	70	66	64
5	85	75	67	62	83	74	67	62	72	66	61	70	65	60	68	64	60	58
6	80	69	61	56	78	68	61	56	66	60	55	65	59	55	63	58	54	53
7	75	63	56	51	73	63	56	51	61	55	50	60	54	50	59	54	50	48
8	70	59	52	47	69	58	51	46	57	51	46	56	50	46	55	50	46	44
9	66	55	48	43	65	54	47	43	53	47	43	52	46	42	51	46	42	41
10	62	51	44	40	61	51	44	40	50	44	39	49	43	39	48	43	39	38

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	129642	129642	129642
5°	137160	128113	121246
10°	142538	123598	111753
15°	139690	117963	103159
20°	135159	112323	94960
25°	126074	104452	86619
30°	113811	92442	77545
35°	93750	79132	64338
40°	76506	61077	49514
45°	65731	46395	35615
50°	59489	35306	22486
55°	54740	25469	8125
60°	52548	17407	1235
65°	50754	11781	365
70°	45449	8181	451
75°	37243	4213	0
80°	23282	1778	0
85°	0	0	0



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.9	6.5
10°-20°	339.2	17.6
20°-30°	452.9	23.5
30°-40°	429.9	22.3
40°-50°	297.2	15.4
50°-60°	164.2	8.5
60°-70°	81.5	4.2
70°-80°	32.1	1.7
80°-90°	3.1	0.2
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°	918.0	47.7
0°-40°	1347.9	70.0
0°-60°	1809.3	93.9
0°-90°	1926.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1926.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1344	1344	1344	1344	1344	
5°	1416	1403	1323	1263	1252	136
15°	1398	1357	1181	1065	1033	396
25°	1184	1179	981	814	814	540
35°	796	880	672	553	546	499
45°	482	553	340	279	261	376
55°	325	306	151	77	48	293
65°	222	161	52	2	2	216
75°	100	61	11	0	0	106
85°	0	2	0	0	0	9
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°	1343.6	1343.6	1343.6	1343.6	1343.6	1343.6	1343.6	1343.6	1343.6	1343.6	1343.6
2.5°	1337.2	1374.2	1377.5	1374.2	1379.1	1377.5	1385.5	1377.5	1387.2	1372.7	1375.9
5°	1416.1	1401.6	1432.2	1416.1	1416.1	1414.6	1409.7	1408.1	1414.6	1393.6	1403.3
7.5°	1437.1	1458.1	1485.5	1451.6	1453.2	1453.2	1443.5	1440.3	1440.3	1401.6	1412.9
10°	1454.8	1441.9	1456.4	1443.5	1454.8	1453.2	1459.6	1438.7	1453.2	1430.7	1429.0
12.5°	1440.3	1435.5	1454.8	1433.9	1427.4	1429.0	1421.0	1416.1	1421.0	1395.2	1393.6
15°	1398.4	1403.3	1432.2	1409.7	1406.5	1403.3	1393.6	1377.5	1390.4	1354.9	1356.6
17.5°	1384.0	1375.9	1380.7	1361.4	1366.2	1363.0	1361.4	1346.9	1343.6	1321.1	1321.1
20°	1316.3	1334.0	1334.0	1321.1	1321.1	1319.5	1298.6	1311.4	1296.9	1290.5	1296.9
22.5°	1269.5	1271.2	1271.2	1259.9	1261.5	1255.1	1243.8	1235.7	1243.8	1235.7	1222.8
25°	1184.2	1187.4	1206.7	1185.8	1182.5	1189.0	1179.3	1174.5	1172.9	1153.6	1179.3
27.5°	1081.0	1113.2	1111.7	1103.6	1113.2	1100.4	1095.6	1097.1	1102.0	1100.4	1106.8
30°	1021.5	1026.3	1031.1	1024.7	1026.3	1021.5	1021.5	1023.0	1035.9	1031.1	1029.5
32.5°	900.6	916.7	929.6	929.6	931.2	936.1	934.4	968.3	976.3	960.2	957.0
35°	795.9	807.2	818.4	820.0	841.0	842.6	844.2	853.9	876.4	881.3	879.6
37.5°	696.0	707.3	710.5	725.0	736.3	747.5	760.5	773.3	792.7	808.7	800.7
40°	607.4	612.2	620.3	626.7	649.2	649.2	655.7	681.5	702.5	715.3	713.7
42.5°	533.3	534.9	541.3	552.6	573.6	568.7	573.6	591.3	621.9	623.5	641.2
45°	481.7	480.1	484.9	486.5	499.5	505.9	509.1	522.0	547.7	551.0	552.6
47.5°	435.0	433.4	441.5	444.7	449.5	455.9	455.9	457.6	467.2	475.3	468.9
50°	396.3	396.3	396.3	399.5	407.6	406.0	407.6	414.1	418.9	415.6	414.1
52.5°	354.4	360.9	365.7	367.4	368.9	368.9	370.6	367.4	365.7	360.9	351.2
55°	325.4	331.9	331.9	331.9	331.9	338.3	330.3	331.9	331.9	319.0	306.1
57.5°	296.5	302.9	307.7	301.3	307.7	301.3	298.0	296.5	293.2	280.3	261.0
60°	272.3	275.5	273.9	272.3	275.5	270.7	267.4	261.0	257.8	240.0	227.2
62.5°	244.9	246.5	248.1	244.9	241.7	240.0	233.6	223.9	217.5	203.0	191.7
65°	222.3	217.5	215.9	214.3	211.1	206.2	201.4	190.1	185.3	172.4	161.1
67.5°	188.5	186.9	190.1	185.3	177.2	177.2	172.4	162.7	151.4	143.4	132.1
70°	161.1	159.5	156.3	151.4	149.8	143.4	143.4	132.1	128.9	114.4	104.7
72.5°	132.1	132.1	127.2	122.5	117.6	114.4	112.8	104.7	99.9	91.8	83.8
75°	99.9	99.9	98.3	93.4	90.2	87.0	85.4	79.0	74.1	66.1	61.2
77.5°	70.9	70.9	64.4	61.2	62.8	59.6	56.4	54.8	53.1	48.3	41.9
80°	41.9	40.3	35.5	37.1	35.5	35.5	33.8	32.2	29.0	25.8	22.5
82.5°	11.3	12.9	12.9	12.9	14.5	11.3	11.3	11.3	12.9	12.9	8.1
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.6	1.6	1.6
87.5°	1.6	3.2	6.4	6.4	6.4	6.4	6.4	4.9	4.9	4.9	3.2
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°	1343.6	1343.6	1343.6	1343.6	1343.6	1343.6	1343.6	1343.6	1343.6	1343.6	1343.6
2.5°	1359.8	1358.1	1359.8	1348.5	1374.2	1354.9	1351.7	1348.5	1359.8	1348.5	1332.4
5°	1388.8	1372.7	1367.8	1363.0	1377.5	1354.9	1350.1	1351.7	1343.6	1322.7	1324.3
7.5°	1398.4	1384.0	1369.4	1338.8	1351.7	1346.9	1334.0	1324.3	1311.4	1293.7	1290.5
10°	1401.6	1385.5	1364.6	1354.9	1335.6	1329.2	1324.3	1308.2	1292.1	1261.5	1253.4
12.5°	1392.0	1372.7	1346.9	1338.8	1324.3	1303.4	1292.1	1276.0	1261.5	1237.3	1219.6
15°	1350.1	1334.0	1325.9	1298.6	1292.1	1279.2	1256.6	1234.1	1213.2	1180.9	1171.2
17.5°	1301.8	1295.3	1287.3	1266.3	1264.7	1251.8	1230.9	1211.5	1184.2	1134.2	1118.1
20°	1251.8	1251.8	1226.0	1218.0	1234.1	1208.3	1192.2	1174.5	1118.1	1093.9	1064.9
22.5°	1214.8	1197.1	1182.5	1169.7	1171.2	1155.1	1132.6	1097.1	1076.2	1047.2	1013.4
25°	1142.3	1148.7	1116.5	1111.7	1116.5	1079.4	1068.2	1039.1	1008.5	981.1	955.4
27.5°	1097.1	1079.4	1058.5	1040.8	1040.8	1026.3	994.1	987.6	940.9	915.1	882.9
30°	1029.5	1016.6	998.9	973.1	969.9	958.6	932.8	916.7	868.4	829.7	812.0
32.5°	944.1	939.3	924.8	895.8	886.1	873.2	841.0	813.6	791.1	747.5	726.6
35°	882.9	865.2	834.6	810.4	802.3	779.8	754.0	734.6	710.5	671.8	644.4
37.5°	791.1	773.3	744.3	715.3	715.3	692.8	657.3	638.0	604.2	581.6	559.0
40°	710.5	687.9	659.0	625.1	620.3	588.0	573.6	541.3	520.4	484.9	481.7
42.5°	620.3	599.3	573.6	547.7	528.4	512.3	475.3	451.1	428.6	410.8	406.0
45°	538.1	510.7	488.2	455.9	436.6	417.3	393.1	377.0	359.3	340.0	328.7
47.5°	467.2	444.7	412.4	383.5	364.1	354.4	327.0	309.3	294.8	282.0	273.9
50°	394.7	367.4	349.6	317.4	314.1	291.6	269.1	254.6	246.5	235.2	223.9
52.5°	340.0	314.1	290.0	265.9	252.9	244.9	223.9	209.4	198.2	190.1	183.7
55°	286.8	264.2	244.9	220.7	212.6	201.4	177.2	174.0	162.7	151.4	143.4
57.5°	246.5	225.5	203.0	186.9	172.4	164.4	145.0	132.1	125.7	116.0	107.9
60°	209.4	186.9	169.2	149.8	143.4	132.1	117.6	106.4	98.3	90.2	82.2
62.5°	175.6	156.3	137.0	120.8	111.2	104.7	93.4	83.8	75.7	69.3	62.8
65°	145.0	127.2	111.2	95.1	90.2	82.2	74.1	66.1	59.6	51.6	45.1
67.5°	119.2	103.1	87.0	75.7	70.9	67.7	58.0	49.9	45.1	40.3	33.8
70°	93.4	82.2	69.3	59.6	54.8	49.9	43.5	38.7	32.2	29.0	24.2
72.5°	72.5	62.8	51.6	43.5	40.3	37.1	30.6	25.8	22.5	19.3	16.1
75°	51.6	43.5	37.1	29.0	27.4	25.8	21.0	17.7	14.5	11.3	9.7
77.5°	35.5	29.0	22.5	19.3	17.7	14.5	12.9	9.7	8.1	6.4	4.9
80°	19.3	14.5	11.3	9.7	8.1	6.4	6.4	4.9	3.2	3.2	1.6
82.5°	6.4	4.9	3.2	1.6	1.6	1.6	1.6	1.6	1.6	0.0	1.6
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°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	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°	1343.6	1343.6	1343.6	1343.6	1343.6	1343.6	1343.6	1343.6	1343.6	1343.6	1343.6
2.5°	1342.0	1324.3	1329.2	1329.2	1325.9	1325.9	1322.7	1317.9	1319.5	1309.8	1288.9
5°	1327.5	1305.0	1301.8	1305.0	1292.1	1288.9	1282.5	1292.1	1263.1	1274.4	1261.5
7.5°	1285.7	1264.7	1259.9	1271.2	1255.1	1245.3	1243.8	1256.6	1230.9	1218.0	1203.5
10°	1238.9	1230.9	1216.4	1208.3	1203.5	1205.1	1192.2	1176.1	1171.2	1168.0	1155.1
12.5°	1197.1	1179.3	1166.4	1156.8	1153.6	1153.6	1132.6	1129.4	1114.9	1111.7	1092.3
15°	1147.1	1126.2	1118.1	1105.2	1093.9	1100.4	1076.2	1069.7	1064.9	1044.0	1047.2
17.5°	1103.6	1081.0	1061.7	1053.7	1044.0	1034.3	1011.7	1016.6	1005.3	1005.3	976.3
20°	1047.2	1023.0	1008.5	992.4	992.4	979.5	963.5	965.0	950.5	936.1	910.2
22.5°	987.6	961.8	944.1	937.6	921.5	918.3	899.0	894.1	874.8	876.4	853.9
25°	924.8	899.0	874.8	876.4	862.0	855.5	844.2	821.7	813.6	804.0	797.5
27.5°	850.7	832.9	812.0	810.4	783.0	784.6	770.1	763.7	744.3	749.2	734.6
30°	783.0	757.2	737.9	733.1	721.8	718.6	696.0	686.3	689.6	676.6	668.6
32.5°	713.7	675.1	667.0	657.3	650.9	642.8	626.7	633.2	618.6	621.9	609.0
35°	621.9	605.8	584.8	584.8	578.4	571.9	560.7	567.1	552.6	546.2	533.3
37.5°	544.5	530.1	509.1	515.6	504.3	494.6	484.9	486.5	473.6	472.1	459.1
40°	460.8	452.7	438.2	438.2	430.2	430.2	425.3	420.5	412.4	402.8	388.2
42.5°	381.8	375.4	368.9	370.6	359.3	368.9	356.1	364.1	338.3	336.7	327.0
45°	323.8	309.3	310.9	304.5	298.0	301.3	290.0	293.2	278.7	275.5	265.9
47.5°	262.6	257.8	248.1	244.9	244.9	240.0	235.2	233.6	227.2	219.1	206.2
50°	215.9	198.2	194.9	190.1	186.9	186.9	180.5	170.8	172.4	164.4	151.4
52.5°	169.2	154.6	148.2	146.6	140.2	137.0	128.9	122.5	117.6	114.4	106.4
55°	130.5	117.6	109.6	109.6	99.9	99.9	88.6	83.8	77.3	70.9	66.1
57.5°	98.3	91.8	83.8	77.3	74.1	66.1	59.6	51.6	46.7	37.1	30.6
60°	74.1	67.7	59.6	54.8	51.6	43.5	35.5	29.0	17.7	14.5	12.9
62.5°	54.8	48.3	40.3	37.1	33.8	27.4	19.3	9.7	4.9	4.9	4.9
65°	40.3	32.2	25.8	22.5	19.3	14.5	6.4	3.2	1.6	1.6	1.6
67.5°	27.4	21.0	14.5	12.9	9.7	4.9	1.6	1.6	1.6	1.6	1.6
70°	17.7	12.9	6.4	4.9	3.2	1.6	1.6	1.6	1.6	1.6	1.6
72.5°	11.3	6.4	3.2	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	6.4	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	3.2	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	1.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	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	1.6	1.6	1.6
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: P645954
 CATALOG NUMBER: FLDSQ4C30D010 FEU4C309030 F4LC-SQLWW-H-D2W

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	1343.6	1343.6	1343.6	1343.6	1343.6	1343.6	1343.6	1343.6
2.5°	1311.4	1300.1	1306.6	1292.1	1298.6	1309.8	1301.8	1305.0
5°	1266.3	1259.9	1251.8	1230.9	1247.0	1259.9	1253.4	1251.8
7.5°	1218.0	1195.4	1206.7	1200.3	1197.1	1209.9	1195.4	1211.5
10°	1168.0	1151.9	1150.4	1139.1	1139.1	1148.7	1150.4	1140.6
12.5°	1093.9	1085.9	1085.9	1084.3	1082.6	1092.3	1093.9	1089.1
15°	1040.8	1037.6	1029.5	1027.9	1018.2	1032.7	1034.3	1032.7
17.5°	976.3	977.9	969.9	969.9	976.3	981.1	968.3	981.1
20°	932.8	924.8	921.5	907.0	915.1	923.2	923.2	924.8
22.5°	870.0	857.1	862.0	853.9	849.0	860.3	860.3	865.2
25°	799.1	799.1	802.3	797.5	800.7	807.2	802.3	813.6
27.5°	731.4	737.9	737.9	731.4	734.6	754.0	762.0	749.2
30°	668.6	670.2	675.1	671.8	681.5	687.9	686.3	696.0
32.5°	597.7	605.8	609.0	604.2	607.4	621.9	613.8	612.2
35°	543.0	528.4	526.9	528.4	534.9	538.1	534.9	546.2
37.5°	464.0	459.1	452.7	454.3	459.1	465.6	468.9	476.9
40°	388.2	381.8	381.8	380.2	375.4	393.1	393.1	393.1
42.5°	322.2	320.6	312.6	312.6	319.0	323.8	320.6	331.9
45°	264.2	257.8	252.9	252.9	257.8	257.8	262.6	261.0
47.5°	207.9	201.4	203.0	198.2	203.0	209.4	201.4	203.0
50°	156.3	156.3	153.1	156.3	154.6	156.3	153.1	149.8
52.5°	106.4	120.8	122.5	116.0	101.5	88.6	80.5	87.0
55°	61.2	54.8	54.8	53.1	49.9	48.3	43.5	48.3
57.5°	30.6	27.4	27.4	27.4	25.8	24.2	21.0	21.0
60°	12.9	11.3	11.3	9.7	8.1	6.4	4.9	6.4
62.5°	4.9	3.2	3.2	3.2	3.2	3.2	3.2	3.2
65°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
67.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
70°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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

(END OF REPORT)