

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: METALUX

Report Number: P#

Luminaire Tested: **4SNLED-LD5-78HL-LW-UNV-L940-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P#
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33520)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4SNLED-LD5-78HL-LW-UNV-L940-CD1-U
Description: 4FT LINEAR SNLED LED FIXTURE
WIDE FROSTED LENS
Light Source: -
Ballast/Driver: -

Summary

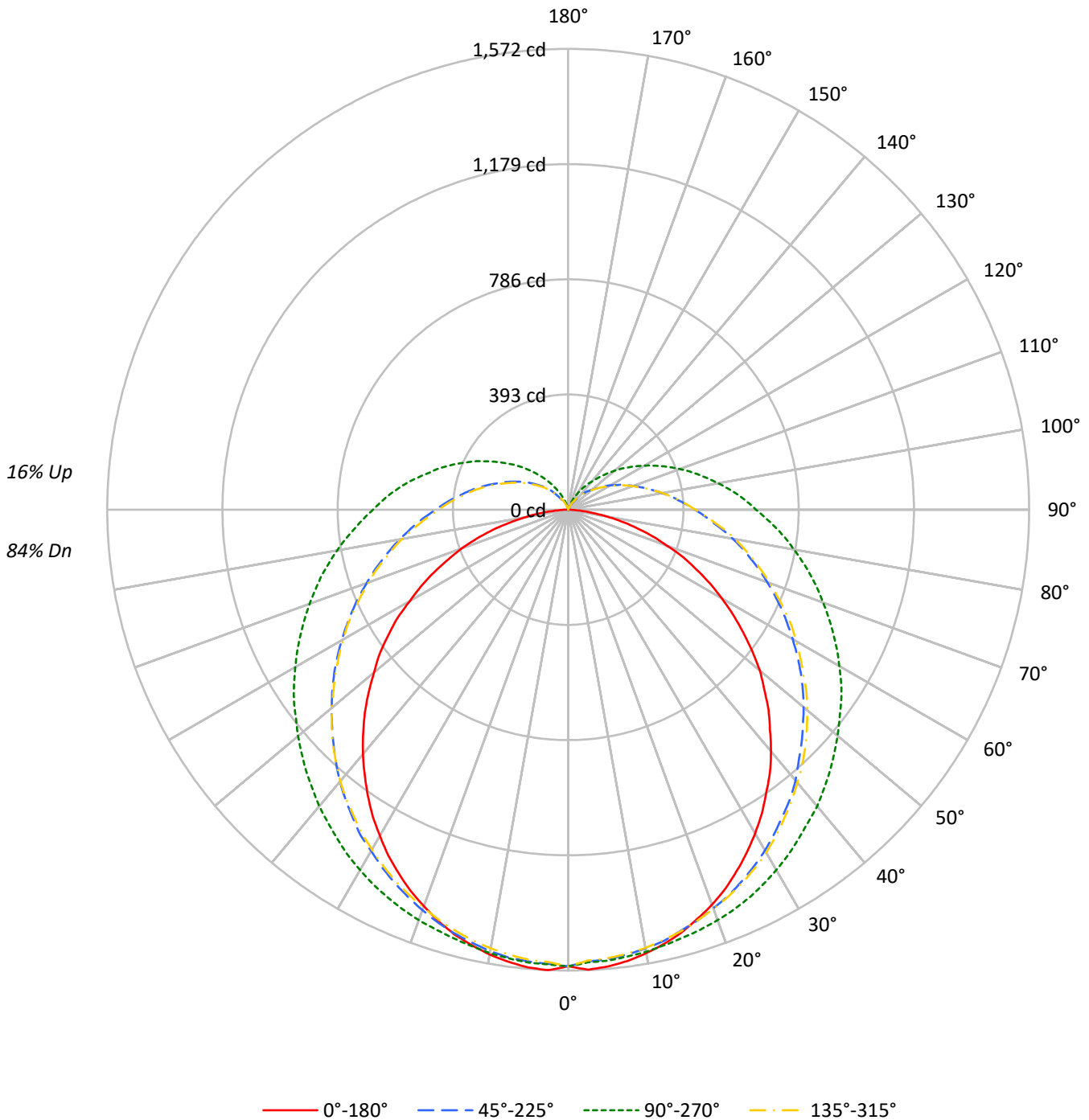
Lumens per Lamp: N/A
Luminaire Lumens: 6766.0 lumens
Efficiency: N/A
Efficacy: 85.6 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 1.36 / 1.44
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.12')
CIE Type: Semi-Direct

Input Watts (W): 79
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			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	115	115	115	115	111	111	111	111	102	102	102	94	94	94	87	87	87	84
1	102	96	91	86	98	92	87	83	85	81	77	78	75	72	72	70	67	64
2	92	82	74	68	87	79	72	66	73	67	62	67	62	58	62	58	54	51
3	83	71	62	55	79	69	60	54	63	56	51	58	52	48	54	49	45	42
4	76	63	53	46	72	60	52	45	56	48	42	51	45	40	47	42	38	35
5	69	56	46	39	66	54	45	38	50	42	36	46	39	34	42	37	33	30
6	64	50	41	34	61	48	39	33	45	37	31	41	35	30	38	33	28	26
7	59	45	36	30	56	43	35	29	40	33	28	38	31	26	35	29	25	23
8	55	41	32	26	52	40	31	26	37	30	24	34	28	23	32	26	22	20
9	51	37	29	23	49	36	28	23	34	27	22	32	25	21	30	24	20	18
10	48	34	26	21	46	33	26	21	31	24	20	29	23	19	27	22	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	12585	12585	12585	12585
5°	12652	12128	12678	12180
10°	12535	11784	12575	11821
15°	12389	11488	12443	11501
20°	12194	11273	12237	11273
25°	11954	11082	12026	11070
30°	11685	10885	11774	10885
35°	11371	10703	11498	10715
40°	11061	10596	11195	10596
45°	10704	10483	10868	10497
50°	10334	10416	10473	10445
55°	9814	10427	10125	10472
60°	9268	10458	9570	10523
65°	8656	10564	9037	10668
70°	7792	10758	8399	10910
75°	6797	11108	7441	11323
80°	5262	11631	5973	11899
85°	3143	12466	3928	12811



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.5	2.2
10°-20°	424.0	6.3
20°-30°	650.1	9.6
30°-40°	802.0	11.9
40°-50°	870.1	12.9
50°-60°	857.6	12.7
60°-70°	775.4	11.5
70°-80°	645.9	9.5
80°-90°	500.3	7.4
90°-100°	379.4	5.6
100°-110°	280.8	4.2
110°-120°	195.3	2.9
120°-130°	124.6	1.8
130°-140°	69.9	1.0
140°-150°	31.9	0.5
150°-160°	9.9	0.1
160°-170°	1.2	0.0
170°-180°	0.0	0.0
0°-30°	1221.6	18.1
0°-40°	2023.6	29.9
0°-60°	3751.2	55.4
0°-90°	5672.8	83.8
90°-120°	855.5	12.6
90°-150°	1082.0	16.0
90°-180°	1093.0	16.2
0°-180°	6766.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1557	1557	1557	1557	1557	
5°	1564	1544	1567	1551	1564	148
15°	1493	1511	1500	1513	1493	421
25°	1360	1460	1368	1459	1360	627
35°	1178	1370	1191	1372	1178	738
45°	966	1262	981	1263	966	744
55°	728	1137	751	1142	728	651
65°	483	997	504	1007	483	479
75°	243	854	266	871	243	257
85°	46	711	58	731	46	56
90°	2	641	3	665	2	2
95°	2	582	2	610	2	1
105°	2	462	2	490	2	2
115°	2	352	2	383	2	2
125°	2	253	2	281	2	1
135°	2	164	2	194	2	1
145°	2	95	2	117	2	1
155°	2	39	2	54	2	1
165°	2	7	2	10	2	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P#

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3
2.5°	1570.5	1570.5	1568.8	1565.5	1567.2	1572.1	1568.8	1560.6	1555.7	1542.5	1545.8
5°	1563.9	1563.9	1562.3	1559.0	1560.6	1567.2	1563.9	1557.3	1550.8	1539.3	1544.2
7.5°	1552.4	1552.4	1550.8	1547.5	1550.8	1557.3	1554.0	1547.5	1542.5	1531.1	1536.0
10°	1536.0	1537.6	1536.0	1531.1	1537.6	1544.2	1542.5	1534.3	1529.4	1519.6	1524.5
12.5°	1516.3	1517.9	1516.3	1514.6	1517.9	1527.8	1524.5	1517.9	1514.6	1506.4	1511.3
15°	1493.3	1494.9	1491.6	1491.6	1494.9	1504.8	1504.8	1498.2	1494.9	1486.7	1496.6
17.5°	1463.7	1465.3	1463.7	1463.7	1467.0	1476.8	1478.5	1475.2	1471.9	1468.6	1478.5
20°	1434.1	1432.5	1432.5	1430.8	1437.4	1452.2	1450.6	1450.6	1447.3	1447.3	1458.8
22.5°	1399.6	1399.6	1398.0	1398.0	1406.2	1419.3	1419.3	1422.6	1419.3	1425.9	1435.8
25°	1360.2	1361.8	1360.2	1363.5	1370.1	1384.8	1386.5	1391.4	1393.1	1399.6	1411.1
27.5°	1319.1	1320.8	1319.1	1322.4	1333.9	1345.4	1353.6	1360.2	1361.8	1371.7	1386.5
30°	1274.8	1274.8	1276.4	1279.7	1292.9	1310.9	1317.5	1325.7	1325.7	1342.1	1356.9
32.5°	1228.8	1228.8	1228.8	1235.4	1250.1	1271.5	1279.7	1289.6	1292.9	1309.3	1325.7
35°	1177.9	1179.5	1179.5	1184.4	1204.1	1225.5	1237.0	1248.5	1255.1	1274.8	1291.2
37.5°	1130.2	1133.5	1128.6	1135.1	1163.1	1181.1	1194.3	1205.8	1217.3	1243.6	1256.7
40°	1076.0	1079.3	1077.6	1090.8	1113.8	1136.8	1151.6	1163.1	1179.5	1205.8	1220.6
42.5°	1018.5	1021.8	1025.1	1039.9	1064.5	1087.5	1105.6	1120.4	1140.1	1163.1	1187.7
45°	965.9	965.9	970.9	988.9	1015.2	1039.9	1061.2	1077.6	1100.6	1125.3	1149.9
47.5°	906.8	908.4	915.0	936.4	964.3	993.9	1013.6	1034.9	1059.6	1085.9	1113.8
50°	852.6	852.6	862.4	885.4	911.7	944.6	965.9	990.6	1016.9	1048.1	1076.0
52.5°	790.2	793.5	808.2	829.6	864.1	893.7	918.3	944.6	975.8	1008.7	1039.9
55°	727.7	734.3	745.8	775.4	811.5	839.4	869.0	901.9	931.4	967.6	1003.7
57.5°	667.0	671.9	690.0	719.5	757.3	791.8	823.0	854.2	890.4	926.5	964.3
60°	604.5	611.1	632.5	662.0	703.1	739.2	775.4	808.2	846.0	883.8	923.2
62.5°	545.4	550.3	575.0	609.5	650.5	690.0	726.1	765.5	806.6	842.7	882.2
65°	483.0	491.2	519.1	550.3	598.0	637.4	678.5	721.2	763.9	803.3	841.1
67.5°	425.5	430.4	460.0	496.1	543.8	588.1	630.8	676.8	721.2	762.2	800.0
70°	358.1	374.5	404.1	441.9	492.8	538.8	584.8	632.5	680.1	722.8	759.0
72.5°	302.3	315.4	348.3	389.3	438.6	492.8	540.5	591.4	639.0	683.4	721.2
75°	243.1	256.3	294.1	340.1	391.0	448.5	497.8	550.3	599.6	644.0	683.4
77.5°	185.6	202.1	243.1	290.8	346.6	405.8	456.7	509.3	560.2	607.8	647.2
80°	133.1	151.1	195.5	249.7	303.9	363.0	418.9	471.5	522.4	570.0	611.1
82.5°	85.4	105.1	152.8	207.0	264.5	323.6	381.1	433.7	484.6	532.3	575.0
85°	46.0	67.4	116.6	170.8	228.3	287.5	345.0	400.8	450.1	494.5	540.5
87.5°	13.1	39.4	87.1	141.3	200.4	254.6	310.5	366.3	415.6	463.3	504.3
90°	1.6	23.0	65.7	116.6	174.1	226.7	282.6	335.1	384.4	432.0	473.1
92.5°	1.6	14.8	50.9	96.9	149.5	203.7	259.6	310.5	356.5	404.1	445.2
95°	1.6	11.5	41.1	82.1	131.4	182.3	234.9	284.2	331.8	376.2	417.3
97.5°	1.6	8.2	32.9	70.6	115.0	162.6	213.6	262.8	308.8	351.6	389.3
100°	1.6	6.6	26.3	60.8	100.2	146.2	192.2	239.8	284.2	325.3	364.7
102.5°	1.6	4.9	23.0	50.9	88.7	129.8	174.1	218.5	261.2	300.6	340.1
105°	1.6	4.9	19.7	44.4	78.9	116.6	157.7	200.4	239.8	277.6	313.8
107.5°	1.6	3.3	16.4	37.8	69.0	105.1	142.9	184.0	220.1	256.3	290.8
110°	1.6	3.3	13.1	34.5	60.8	93.6	129.8	167.6	202.1	236.6	269.4



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CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L940-CD1-U

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1.6	3.3	11.5	29.6	52.6	83.8	116.6	151.1	184.0	218.5	248.1
115°	1.6	3.3	9.9	26.3	49.3	72.3	105.1	136.3	169.2	200.4	228.3
117.5°	1.6	3.3	8.2	21.4	42.7	65.7	92.0	123.2	152.8	182.3	208.6
120°	1.6	3.3	6.6	19.7	37.8	59.1	82.1	110.1	138.0	165.9	193.8
122.5°	1.6	1.6	6.6	16.4	32.9	52.6	75.6	96.9	123.2	149.5	174.1
125°	1.6	1.6	6.6	14.8	27.9	47.6	67.4	87.1	110.1	133.1	154.4
127.5°	1.6	1.6	4.9	11.5	24.6	41.1	59.1	80.5	96.9	118.3	139.6
130°	1.6	1.6	4.9	9.9	21.4	34.5	52.6	70.6	90.4	105.1	123.2
132.5°	1.6	1.6	4.9	8.2	16.4	27.9	44.4	60.8	78.9	95.3	110.1
135°	1.6	1.6	3.3	6.6	13.1	23.0	36.1	50.9	69.0	85.4	100.2
137.5°	1.6	1.6	3.3	6.6	9.9	19.7	27.9	41.1	57.5	72.3	87.1
140°	1.6	1.6	3.3	4.9	8.2	14.8	23.0	32.9	46.0	59.1	75.6
142.5°	1.6	1.6	1.6	4.9	6.6	11.5	18.1	26.3	36.1	47.6	60.8
145°	1.6	1.6	1.6	4.9	6.6	8.2	14.8	21.4	27.9	36.1	47.6
147.5°	1.6	1.6	1.6	3.3	4.9	6.6	11.5	16.4	21.4	27.9	34.5
150°	1.6	1.6	1.6	3.3	4.9	6.6	8.2	11.5	16.4	23.0	27.9
152.5°	1.6	1.6	1.6	3.3	3.3	4.9	6.6	8.2	11.5	16.4	19.7
155°	1.6	1.6	1.6	1.6	3.3	4.9	6.6	6.6	8.2	11.5	14.8
157.5°	1.6	1.6	1.6	1.6	3.3	3.3	4.9	4.9	6.6	6.6	9.9
160°	1.6	1.6	1.6	1.6	1.6	3.3	3.3	4.9	4.9	4.9	4.9
162.5°	1.6	1.6	1.6	1.6	1.6	1.6	3.3	3.3	3.3	4.9	4.9
165°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	3.3	3.3	3.3
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	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°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3
2.5°	1545.8	1547.5	1552.4	1552.4	1549.1	1549.1	1547.5	1545.8	1547.5	1550.8	1550.8
5°	1542.5	1544.2	1549.1	1550.8	1547.5	1545.8	1545.8	1544.2	1545.8	1549.1	1549.1
7.5°	1536.0	1537.6	1542.5	1544.2	1540.9	1540.9	1539.3	1537.6	1540.9	1542.5	1542.5
10°	1526.1	1527.8	1534.3	1536.0	1534.3	1532.7	1532.7	1531.1	1532.7	1536.0	1536.0
12.5°	1513.0	1516.3	1524.5	1524.5	1524.5	1522.8	1522.8	1521.2	1522.8	1526.1	1524.5
15°	1498.2	1504.8	1511.3	1514.6	1514.6	1514.6	1513.0	1511.3	1514.6	1516.3	1514.6
17.5°	1481.8	1490.0	1499.8	1503.1	1503.1	1504.8	1503.1	1501.5	1504.8	1504.8	1503.1
20°	1465.3	1473.6	1483.4	1486.7	1490.0	1491.6	1491.6	1490.0	1491.6	1493.3	1491.6
22.5°	1444.0	1453.8	1465.3	1470.3	1473.6	1476.8	1476.8	1476.8	1478.5	1480.1	1476.8
25°	1421.0	1432.5	1445.6	1450.6	1457.1	1458.8	1460.4	1460.4	1462.1	1463.7	1458.8
27.5°	1396.3	1409.5	1422.6	1430.8	1435.8	1439.1	1439.1	1440.7	1442.3	1444.0	1439.1
30°	1366.8	1386.5	1398.0	1404.6	1411.1	1416.1	1417.7	1419.3	1421.0	1422.6	1417.7
32.5°	1340.5	1356.9	1371.7	1379.9	1388.1	1394.7	1396.3	1396.3	1399.6	1399.6	1394.7
35°	1309.3	1329.0	1343.8	1352.0	1361.8	1366.8	1370.1	1370.1	1373.3	1373.3	1368.4
37.5°	1278.1	1297.8	1314.2	1324.1	1335.6	1342.1	1343.8	1343.8	1347.1	1347.1	1340.5
40°	1245.2	1266.6	1284.6	1296.1	1306.0	1314.2	1315.8	1320.8	1320.8	1319.1	1312.6
42.5°	1212.4	1232.1	1251.8	1264.9	1278.1	1286.3	1289.6	1291.2	1291.2	1289.6	1284.6
45°	1176.2	1199.2	1217.3	1233.7	1246.9	1255.1	1260.0	1261.6	1261.6	1258.4	1253.4
47.5°	1141.7	1164.7	1182.8	1200.9	1214.0	1223.9	1228.8	1230.4	1228.8	1227.1	1222.2
50°	1105.6	1131.9	1149.9	1168.0	1181.1	1189.4	1197.6	1199.2	1197.6	1195.9	1186.1
52.5°	1067.8	1095.7	1115.4	1133.5	1148.3	1158.1	1164.7	1166.4	1166.4	1163.1	1156.5
55°	1030.0	1054.7	1079.3	1099.0	1115.4	1125.3	1133.5	1136.8	1133.5	1130.2	1122.0
57.5°	995.5	1018.5	1043.2	1064.5	1080.9	1094.1	1100.6	1103.9	1100.6	1095.7	1087.5
60°	954.4	979.1	1007.0	1026.7	1044.8	1057.9	1061.2	1067.8	1064.5	1059.6	1051.4
62.5°	915.0	944.6	969.2	993.9	1008.7	1023.4	1030.0	1033.3	1030.0	1025.1	1016.9
65°	873.9	906.8	931.4	956.1	972.5	987.3	995.5	997.2	993.9	988.9	980.7
67.5°	836.2	867.4	893.7	919.9	934.7	949.5	957.7	961.0	957.7	951.2	942.9
70°	798.4	829.6	860.8	880.5	898.6	915.0	919.9	924.9	921.6	915.0	905.2
72.5°	760.6	793.5	824.7	844.4	864.1	878.9	885.4	890.4	887.1	880.5	869.0
75°	721.2	755.7	786.9	808.2	828.0	842.7	849.3	854.2	850.9	844.4	831.2
77.5°	685.0	719.5	749.1	772.1	791.8	805.0	816.5	818.1	814.8	808.2	795.1
80°	647.2	681.7	713.0	736.0	755.7	768.8	777.0	782.0	778.7	772.1	759.0
82.5°	614.4	645.6	676.8	699.8	719.5	736.0	742.5	747.5	745.8	736.0	726.1
85°	578.3	614.4	639.0	663.7	683.4	699.8	704.7	711.3	709.7	701.5	688.3
87.5°	542.1	578.3	607.8	632.5	650.5	663.7	671.9	675.2	673.5	665.3	650.5
90°	512.5	545.4	575.0	601.2	616.0	630.8	639.0	640.7	640.7	630.8	619.3
92.5°	484.6	515.8	545.4	570.0	588.1	601.2	607.8	611.1	609.5	601.2	588.1
95°	453.4	487.9	515.8	540.5	558.5	571.7	578.3	581.5	579.9	571.7	558.5
97.5°	427.1	458.3	486.3	509.3	527.3	540.5	547.0	550.3	550.3	542.1	529.0
100°	400.8	432.0	458.3	481.3	497.8	510.9	517.5	519.1	517.5	510.9	497.8
102.5°	374.5	404.1	430.4	451.8	469.8	481.3	487.9	489.5	489.5	481.3	468.2
105°	348.3	377.8	402.5	425.5	440.3	451.8	456.7	461.6	460.0	453.4	440.3
107.5°	323.6	353.2	376.2	397.5	412.3	423.8	428.8	433.7	432.0	425.5	412.3
110°	300.6	328.6	349.9	371.3	384.4	395.9	404.1	405.8	402.5	395.9	384.4



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L940-CD1-U

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	279.3	303.9	325.3	345.0	359.8	368.0	374.5	377.8	374.5	368.0	359.8
115°	256.3	280.9	302.3	320.3	333.5	343.3	348.3	351.6	348.3	341.7	333.5
117.5°	234.9	257.9	279.3	297.3	308.8	317.1	322.0	325.3	322.0	317.1	308.8
120°	216.8	236.6	256.3	272.7	285.8	292.4	297.3	300.6	299.0	292.4	284.2
122.5°	195.5	216.8	234.9	251.3	262.8	269.4	272.7	276.0	274.3	269.4	261.2
125°	177.4	195.5	213.6	228.3	239.8	246.4	249.7	253.0	251.3	246.4	236.6
127.5°	157.7	177.4	192.2	207.0	215.2	225.1	226.7	230.0	228.3	223.4	215.2
130°	142.9	157.7	172.5	185.6	195.5	202.1	205.3	207.0	203.7	200.4	192.2
132.5°	124.8	141.3	154.4	165.9	172.5	179.1	182.3	184.0	184.0	179.1	172.5
135°	111.7	123.2	134.7	146.2	152.8	159.3	162.6	164.3	162.6	159.3	152.8
137.5°	100.2	110.1	118.3	128.1	136.3	139.6	142.9	142.9	141.3	139.6	134.7
140°	87.1	98.6	106.8	113.4	119.9	121.6	124.8	124.8	123.2	121.6	118.3
142.5°	73.9	83.8	92.0	100.2	105.1	108.4	110.1	111.7	110.1	108.4	103.5
145°	59.1	70.6	78.9	83.8	90.4	92.0	93.6	95.3	93.6	92.0	87.1
147.5°	46.0	55.9	64.1	70.6	75.6	77.2	78.9	80.5	78.9	75.6	73.9
150°	32.9	41.1	50.9	57.5	60.8	64.1	64.1	64.1	65.7	62.4	59.1
152.5°	26.3	29.6	36.1	42.7	47.6	49.3	50.9	50.9	49.3	49.3	46.0
155°	18.1	21.4	26.3	31.2	36.1	37.8	39.4	39.4	37.8	37.8	36.1
157.5°	11.5	14.8	18.1	21.4	26.3	27.9	29.6	29.6	29.6	27.9	26.3
160°	6.6	8.2	9.9	13.1	16.4	18.1	19.7	19.7	19.7	19.7	18.1
162.5°	4.9	4.9	4.9	6.6	8.2	9.9	11.5	11.5	11.5	11.5	9.9
165°	3.3	3.3	3.3	3.3	3.3	4.9	6.6	6.6	6.6	6.6	6.6
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L940-CD1-U

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3
2.5°	1549.1	1549.1	1550.8	1547.5	1537.6	1539.3	1539.3	1545.8	1549.1	1550.8	1559.0
5°	1545.8	1545.8	1549.1	1544.2	1536.0	1536.0	1536.0	1542.5	1544.2	1547.5	1554.0
7.5°	1540.9	1540.9	1542.5	1537.6	1527.8	1527.8	1526.1	1532.7	1536.0	1537.6	1544.2
10°	1532.7	1532.7	1534.3	1529.4	1517.9	1517.9	1516.3	1521.2	1522.8	1526.1	1531.1
12.5°	1521.2	1521.2	1521.2	1516.3	1504.8	1503.1	1501.5	1506.4	1506.4	1508.1	1513.0
15°	1511.3	1508.1	1508.1	1503.1	1491.6	1488.3	1485.1	1486.7	1490.0	1488.3	1491.6
17.5°	1499.8	1496.6	1493.3	1488.3	1473.6	1468.6	1465.3	1467.0	1465.3	1463.7	1467.0
20°	1486.7	1481.8	1480.1	1471.9	1457.1	1448.9	1442.3	1439.1	1440.7	1435.8	1437.4
22.5°	1471.9	1465.3	1462.1	1452.2	1437.4	1427.6	1419.3	1412.8	1411.1	1404.6	1406.2
25°	1453.8	1445.6	1440.7	1432.5	1416.1	1404.6	1394.7	1384.8	1379.9	1371.7	1370.1
27.5°	1432.5	1424.3	1417.7	1409.5	1393.1	1378.3	1366.8	1353.6	1347.1	1337.2	1332.3
30°	1411.1	1401.3	1391.4	1384.8	1366.8	1350.3	1332.3	1320.8	1310.9	1299.4	1291.2
32.5°	1384.8	1375.0	1365.1	1355.3	1338.8	1319.1	1304.3	1286.3	1274.8	1261.6	1251.8
35°	1358.6	1345.4	1335.6	1322.4	1307.6	1284.6	1266.6	1248.5	1233.7	1218.9	1207.4
37.5°	1329.0	1319.1	1304.3	1292.9	1274.8	1251.8	1232.1	1209.1	1195.9	1176.2	1161.4
40°	1301.1	1289.6	1274.8	1260.0	1241.9	1215.6	1194.3	1168.0	1153.2	1130.2	1115.4
42.5°	1273.1	1256.7	1241.9	1225.5	1205.8	1181.1	1154.9	1128.6	1108.9	1087.5	1066.2
45°	1241.9	1223.9	1205.8	1187.7	1168.0	1143.4	1115.4	1087.5	1062.9	1043.2	1016.9
47.5°	1209.1	1191.0	1169.6	1149.9	1128.6	1103.9	1074.4	1044.8	1018.5	995.5	967.6
50°	1176.2	1158.1	1135.1	1113.8	1089.1	1064.5	1033.3	998.8	970.9	941.3	916.7
52.5°	1141.7	1123.6	1102.3	1074.4	1048.1	1023.4	990.6	954.4	923.2	898.6	867.4
55°	1107.2	1089.1	1064.5	1036.6	1010.3	979.1	947.9	911.7	877.2	847.7	816.5
57.5°	1071.1	1054.7	1026.7	1003.7	970.9	938.0	905.2	870.7	832.9	798.4	762.2
60°	1034.9	1016.9	990.6	962.7	929.8	896.9	862.4	824.7	785.2	747.5	714.6
62.5°	1002.1	979.1	954.4	924.9	890.4	859.2	819.7	778.7	739.2	699.8	660.4
65°	964.3	939.7	916.7	887.1	850.9	814.8	775.4	734.3	691.6	648.9	609.5
67.5°	926.5	901.9	877.2	847.7	809.9	772.1	731.0	690.0	642.3	601.2	555.3
70°	888.7	869.0	837.8	806.6	772.1	731.0	690.0	645.6	596.3	552.0	504.3
72.5°	850.9	831.2	800.0	767.2	734.3	691.6	647.2	602.9	556.9	506.0	455.0
75°	814.8	790.2	762.2	731.0	696.5	652.2	607.8	561.8	507.6	460.0	407.4
77.5°	780.3	757.3	729.4	694.9	657.1	614.4	568.4	520.8	466.5	415.6	358.1
80°	742.5	719.5	691.6	657.1	619.3	578.3	529.0	479.7	427.1	371.3	312.1
82.5°	706.4	685.0	653.8	622.6	581.5	540.5	491.2	441.9	386.0	331.8	274.3
85°	668.6	647.2	617.7	584.8	545.4	501.0	455.0	405.8	349.9	294.1	236.6
87.5°	635.7	611.1	581.5	548.7	509.3	466.5	422.2	369.6	315.4	261.2	202.1
90°	601.2	578.3	548.7	515.8	476.4	433.7	387.7	338.4	285.8	230.0	174.1
92.5°	571.7	547.0	519.1	486.3	446.8	405.8	359.8	310.5	259.6	205.3	151.1
95°	542.1	517.5	491.2	458.3	418.9	377.8	331.8	284.2	234.9	182.3	131.4
97.5°	509.3	487.9	461.6	430.4	391.0	351.6	307.2	261.2	213.6	162.6	115.0
100°	483.0	458.3	433.7	400.8	364.7	326.9	282.6	238.2	192.2	144.6	100.2
102.5°	453.4	430.4	405.8	374.5	338.4	300.6	259.6	216.8	174.1	129.8	87.1
105°	425.5	404.1	377.8	348.3	313.8	277.6	238.2	198.8	157.7	115.0	77.2
107.5°	397.5	376.2	351.6	323.6	290.8	254.6	218.5	179.1	141.3	103.5	69.0
110°	369.6	349.9	326.9	299.0	267.8	234.9	200.4	164.3	126.5	92.0	60.8



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L940-CD1-U

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	345.0	325.3	302.3	276.0	246.4	215.2	182.3	147.8	113.4	82.1	52.6
115°	320.3	302.3	279.3	256.3	226.7	197.1	165.9	133.1	101.9	73.9	46.0
117.5°	295.7	277.6	256.3	233.3	207.0	179.1	149.5	118.3	92.0	65.7	41.1
120°	271.1	254.6	234.9	213.6	190.6	162.6	133.1	106.8	82.1	57.5	36.1
122.5°	248.1	233.3	215.2	195.5	170.8	144.6	119.9	96.9	73.9	50.9	29.6
125°	226.7	211.9	195.5	175.8	152.8	129.8	108.4	87.1	64.1	44.4	24.6
127.5°	205.3	190.6	174.1	156.1	138.0	116.6	96.9	77.2	57.5	39.4	21.4
130°	184.0	170.8	156.1	141.3	123.2	103.5	87.1	67.4	49.3	31.2	18.1
132.5°	162.6	152.8	139.6	124.8	108.4	93.6	75.6	59.1	42.7	27.9	16.4
135°	144.6	134.7	123.2	110.1	96.9	82.1	65.7	50.9	36.1	23.0	13.1
137.5°	128.1	119.9	108.4	96.9	85.4	70.6	57.5	42.7	29.6	19.7	9.9
140°	113.4	105.1	95.3	83.8	73.9	60.8	47.6	34.5	26.3	16.4	8.2
142.5°	98.6	90.4	82.1	72.3	62.4	50.9	39.4	29.6	21.4	13.1	8.2
145°	83.8	77.2	69.0	60.8	50.9	41.1	32.9	24.6	16.4	9.9	6.6
147.5°	69.0	64.1	55.9	49.3	41.1	32.9	26.3	19.7	13.1	8.2	4.9
150°	55.9	50.9	44.4	37.8	32.9	26.3	21.4	14.8	9.9	8.2	4.9
152.5°	42.7	39.4	34.5	31.2	26.3	19.7	14.8	11.5	8.2	6.6	3.3
155°	34.5	31.2	27.9	23.0	19.7	14.8	11.5	8.2	6.6	4.9	3.3
157.5°	24.6	23.0	19.7	16.4	13.1	9.9	8.2	8.2	4.9	3.3	1.6
160°	16.4	14.8	13.1	9.9	8.2	8.2	6.6	4.9	3.3	3.3	1.6
162.5°	9.9	8.2	8.2	8.2	6.6	6.6	4.9	3.3	3.3	1.6	1.6
165°	6.6	6.6	6.6	4.9	4.9	4.9	3.3	1.6	1.6	1.6	1.6
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L940-CD1-U

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°	185°	190°	195°	200°	205°	210°	215°
0°	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3
2.5°	1559.0	1554.0	1560.6	1572.1	1573.8	1572.1	1568.8	1573.8	1580.3	1578.7	1567.2
5°	1555.7	1549.1	1555.7	1567.2	1567.2	1565.5	1563.9	1568.8	1575.4	1573.8	1563.9
7.5°	1545.8	1539.3	1545.8	1555.7	1557.3	1554.0	1554.0	1559.0	1565.5	1563.9	1555.7
10°	1532.7	1526.1	1529.4	1540.9	1544.2	1540.9	1540.9	1545.8	1554.0	1552.4	1542.5
12.5°	1513.0	1508.1	1511.3	1521.2	1524.5	1522.8	1521.2	1527.8	1536.0	1536.0	1526.1
15°	1491.6	1485.1	1488.3	1499.8	1501.5	1498.2	1499.8	1504.8	1514.6	1514.6	1506.4
17.5°	1467.0	1458.8	1463.7	1471.9	1473.6	1473.6	1473.6	1480.1	1491.6	1490.0	1483.4
20°	1439.1	1427.6	1430.8	1439.1	1442.3	1442.3	1442.3	1453.8	1462.1	1462.1	1455.5
22.5°	1406.2	1398.0	1398.0	1406.2	1411.1	1409.5	1409.5	1419.3	1430.8	1429.2	1429.2
25°	1368.4	1361.8	1358.6	1368.4	1370.1	1371.7	1375.0	1384.8	1398.0	1398.0	1399.6
27.5°	1329.0	1322.4	1320.8	1329.0	1330.6	1332.3	1335.6	1347.1	1360.2	1361.8	1365.1
30°	1291.2	1281.4	1278.1	1284.6	1287.9	1289.6	1289.6	1307.6	1319.1	1324.1	1330.6
32.5°	1246.9	1237.0	1228.8	1240.3	1241.9	1245.2	1246.9	1264.9	1278.1	1286.3	1296.1
35°	1202.5	1186.1	1182.8	1191.0	1194.3	1195.9	1199.2	1218.9	1237.0	1243.6	1256.7
37.5°	1153.2	1141.7	1131.9	1140.1	1143.4	1145.0	1154.9	1172.9	1191.0	1200.9	1214.0
40°	1107.2	1092.4	1084.2	1089.1	1092.4	1094.1	1105.6	1125.3	1146.6	1158.1	1174.6
42.5°	1056.3	1036.6	1030.0	1034.9	1036.6	1041.5	1051.4	1077.6	1099.0	1115.4	1128.6
45°	1005.4	990.6	975.8	980.7	982.4	985.7	1000.4	1028.4	1051.4	1071.1	1085.9
47.5°	952.8	934.7	919.9	923.2	929.8	931.4	947.9	980.7	1002.1	1023.4	1043.2
50°	900.2	875.6	864.1	864.1	867.4	875.6	896.9	929.8	952.8	977.4	998.8
52.5°	846.0	823.0	809.9	811.5	814.8	824.7	844.4	877.2	903.5	929.8	956.1
55°	791.8	767.2	754.0	750.7	754.0	767.2	790.2	824.7	850.9	882.2	910.1
57.5°	737.6	708.0	696.5	691.6	694.9	711.3	734.3	770.5	803.3	832.9	865.7
60°	678.5	655.5	635.7	624.2	632.5	653.8	678.5	716.2	750.7	783.6	819.7
62.5°	627.5	598.0	576.6	565.1	573.3	591.4	625.9	662.0	699.8	737.6	773.7
65°	570.0	540.5	515.8	504.3	512.5	533.9	568.4	607.8	648.9	686.7	729.4
67.5°	514.2	483.0	453.4	441.9	451.8	474.8	512.5	556.9	601.2	640.7	686.7
70°	460.0	425.5	394.3	386.0	392.6	423.8	460.0	504.3	550.3	596.3	644.0
72.5°	410.7	368.0	335.1	325.3	333.5	368.0	409.0	455.0	504.3	553.6	604.5
75°	353.2	313.8	277.6	266.1	276.0	307.2	358.1	407.4	460.0	512.5	560.2
77.5°	307.2	261.2	223.4	205.3	221.8	261.2	310.5	363.0	417.3	471.5	525.7
80°	259.6	211.9	170.8	151.1	169.2	211.9	261.2	318.7	379.5	433.7	483.0
82.5°	216.8	165.9	123.2	101.9	121.6	169.2	223.4	280.9	340.1	394.3	451.8
85°	177.4	124.8	80.5	57.5	85.4	128.1	185.6	244.8	305.6	361.4	417.3
87.5°	144.6	93.6	49.3	24.6	52.6	100.2	154.4	213.6	274.3	330.2	382.8
90°	118.3	67.4	26.3	3.3	31.2	75.6	128.1	185.6	243.1	300.6	353.2
92.5°	96.9	50.9	14.8	1.6	19.7	60.8	110.1	164.3	220.1	276.0	326.9
95°	80.5	39.4	9.9	1.6	14.8	47.6	93.6	146.2	198.8	253.0	303.9
97.5°	69.0	32.9	8.2	1.6	11.5	41.1	80.5	129.8	180.7	231.6	280.9
100°	59.1	26.3	6.6	1.6	9.9	34.5	70.6	115.0	162.6	211.9	259.6
102.5°	50.9	21.4	4.9	1.6	8.2	29.6	62.4	103.5	146.2	193.8	239.8
105°	44.4	18.1	4.9	1.6	6.6	26.3	55.9	92.0	134.7	177.4	221.8
107.5°	37.8	14.8	3.3	1.6	4.9	21.4	49.3	83.8	121.6	162.6	203.7
110°	32.9	13.1	3.3	1.6	4.9	19.7	42.7	75.6	110.1	147.8	187.3



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L940-CD1-U

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°	185°	190°	195°	200°	205°	210°	215°
112.5°	27.9	9.9	3.3	1.6	3.3	16.4	37.8	67.4	100.2	134.7	172.5
115°	24.6	8.2	1.6	1.6	3.3	14.8	34.5	60.8	90.4	123.2	157.7
117.5°	19.7	6.6	1.6	1.6	1.6	11.5	29.6	54.2	82.1	113.4	144.6
120°	16.4	6.6	1.6	1.6	1.6	9.9	26.3	47.6	73.9	101.9	131.4
122.5°	14.8	4.9	1.6	1.6	1.6	8.2	23.0	42.7	65.7	92.0	119.9
125°	13.1	4.9	1.6	1.6	1.6	6.6	19.7	37.8	59.1	82.1	108.4
127.5°	9.9	4.9	1.6	1.6	1.6	4.9	18.1	32.9	52.6	73.9	96.9
130°	8.2	3.3	1.6	1.6	1.6	4.9	14.8	29.6	46.0	65.7	87.1
132.5°	6.6	3.3	1.6	1.6	1.6	3.3	11.5	23.0	39.4	57.5	77.2
135°	6.6	3.3	1.6	1.6	1.6	3.3	8.2	19.7	32.9	49.3	65.7
137.5°	6.6	1.6	1.6	1.6	1.6	3.3	6.6	14.8	26.3	39.4	54.2
140°	4.9	1.6	1.6	1.6	1.6	1.6	4.9	11.5	21.4	32.9	46.0
142.5°	4.9	1.6	1.6	1.6	1.6	1.6	4.9	8.2	16.4	26.3	36.1
145°	3.3	1.6	1.6	1.6	1.6	1.6	3.3	6.6	13.1	19.7	29.6
147.5°	3.3	1.6	1.6	1.6	1.6	1.6	3.3	4.9	9.9	16.4	23.0
150°	3.3	1.6	1.6	1.6	1.6	1.6	3.3	4.9	6.6	11.5	18.1
152.5°	1.6	1.6	1.6	1.6	1.6	1.6	3.3	3.3	4.9	8.2	11.5
155°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	3.3	4.9	6.6	8.2
157.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	3.3	3.3	4.9	6.6
160°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	3.3	3.3	4.9
162.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	3.3	3.3
165°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L940-CD1-U

CANDELA DISTRIBUTION (continued):

	220°	225°	230°	235°	240°	245°	250°	255°	260°	265°	270°
0°	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3
2.5°	1562.3	1550.8	1554.0	1552.4	1555.7	1560.6	1560.6	1559.0	1559.0	1555.7	1552.4
5°	1559.0	1547.5	1552.4	1550.8	1554.0	1559.0	1559.0	1557.3	1557.3	1552.4	1550.8
7.5°	1549.1	1540.9	1544.2	1544.2	1547.5	1552.4	1552.4	1550.8	1550.8	1545.8	1544.2
10°	1539.3	1529.4	1534.3	1534.3	1537.6	1544.2	1544.2	1542.5	1542.5	1537.6	1536.0
12.5°	1522.8	1513.0	1521.2	1522.8	1526.1	1532.7	1531.1	1531.1	1531.1	1526.1	1524.5
15°	1503.1	1496.6	1504.8	1506.4	1511.3	1519.6	1519.6	1519.6	1519.6	1514.6	1513.0
17.5°	1481.8	1476.8	1485.1	1488.3	1494.9	1503.1	1503.1	1504.8	1506.4	1503.1	1501.5
20°	1457.1	1453.8	1462.1	1468.6	1478.5	1486.7	1490.0	1491.6	1494.9	1491.6	1490.0
22.5°	1429.2	1429.2	1440.7	1447.3	1458.8	1467.0	1471.9	1476.8	1480.1	1476.8	1475.2
25°	1398.0	1402.9	1414.4	1425.9	1439.1	1447.3	1452.2	1458.8	1462.1	1460.4	1458.8
27.5°	1368.4	1375.0	1389.8	1401.3	1412.8	1425.9	1430.8	1439.1	1442.3	1442.3	1440.7
30°	1333.9	1343.8	1360.2	1373.3	1388.1	1401.3	1407.8	1416.1	1421.0	1417.7	1419.3
32.5°	1301.1	1317.5	1330.6	1345.4	1361.8	1375.0	1383.2	1393.1	1398.0	1396.3	1398.0
35°	1264.9	1281.4	1299.4	1314.2	1333.9	1347.1	1358.6	1366.8	1373.3	1371.7	1371.7
37.5°	1225.5	1246.9	1264.9	1284.6	1302.7	1317.5	1329.0	1338.8	1345.4	1345.4	1345.4
40°	1187.7	1210.7	1228.8	1251.8	1274.8	1287.9	1301.1	1310.9	1317.5	1319.1	1320.8
42.5°	1146.6	1171.3	1192.6	1217.3	1240.3	1256.7	1271.5	1283.0	1289.6	1292.9	1291.2
45°	1108.9	1131.9	1156.5	1184.4	1205.8	1222.2	1240.3	1253.4	1260.0	1261.6	1263.3
47.5°	1066.2	1092.4	1120.4	1148.3	1169.6	1191.0	1207.4	1220.6	1227.1	1232.1	1232.1
50°	1025.1	1053.0	1084.2	1113.8	1136.8	1158.1	1174.6	1189.4	1197.6	1200.9	1202.5
52.5°	987.3	1013.6	1046.4	1076.0	1099.0	1120.4	1141.7	1158.1	1166.4	1169.6	1169.6
55°	941.3	974.2	1010.3	1038.2	1062.9	1087.5	1108.9	1125.3	1133.5	1138.4	1141.7
57.5°	898.6	933.1	970.9	1000.4	1030.0	1053.0	1072.7	1094.1	1100.6	1107.2	1108.9
60°	857.5	892.0	928.2	961.0	990.6	1015.2	1038.2	1056.3	1067.8	1071.1	1074.4
62.5°	814.8	850.9	888.7	921.6	952.8	982.4	1003.7	1020.2	1033.3	1038.2	1041.5
65°	773.7	811.5	849.3	883.8	916.7	946.2	967.6	984.0	997.2	1005.4	1007.0
67.5°	729.4	770.5	809.9	846.0	878.9	910.1	931.4	947.9	961.0	970.9	972.5
70°	688.3	731.0	770.5	809.9	842.7	873.9	896.9	913.4	928.2	934.7	938.0
72.5°	648.9	693.2	734.3	773.7	806.6	837.8	862.4	878.9	893.7	901.9	903.5
75°	611.1	655.5	699.8	737.6	772.1	803.3	828.0	846.0	859.2	867.4	870.7
77.5°	573.3	619.3	663.7	701.5	737.6	768.8	790.2	811.5	824.7	834.5	834.5
80°	535.5	583.2	629.2	667.0	703.1	731.0	755.7	777.0	790.2	800.0	800.0
82.5°	502.7	548.7	593.0	630.8	667.0	698.2	722.8	742.5	757.3	763.9	765.5
85°	464.9	515.8	556.9	598.0	632.5	662.0	686.7	708.0	721.2	727.7	731.0
87.5°	433.7	483.0	527.3	563.5	598.0	627.5	655.5	673.5	686.7	694.9	698.2
90°	404.1	451.8	496.1	532.3	568.4	596.3	622.6	640.7	655.5	662.0	665.3
92.5°	377.8	425.5	468.2	504.3	538.8	570.0	594.7	612.7	625.9	632.5	637.4
95°	353.2	399.2	440.3	479.7	512.5	540.5	566.8	584.8	599.6	604.5	609.5
97.5°	328.6	372.9	414.0	451.8	486.3	512.5	537.2	555.3	566.8	575.0	579.9
100°	307.2	349.9	389.3	425.5	458.3	483.0	509.3	525.7	537.2	543.8	550.3
102.5°	284.2	326.9	364.7	399.2	433.7	456.7	481.3	497.8	507.6	519.1	519.1
105°	264.5	303.9	341.7	374.5	404.1	432.0	453.4	469.8	481.3	489.5	489.5
107.5°	243.1	282.6	318.7	353.2	381.1	407.4	427.1	441.9	455.0	460.0	464.9
110°	226.7	261.2	297.3	330.2	356.5	381.1	400.8	417.3	428.8	433.7	437.0



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L940-CD1-U

CANDELA DISTRIBUTION (continued):

	220°	225°	230°	235°	240°	245°	250°	255°	260°	265°	270°
112.5°	207.0	243.1	276.0	307.2	333.5	356.5	376.2	389.3	400.8	407.4	409.0
115°	190.6	225.1	254.6	284.2	312.1	331.8	349.9	363.0	374.5	379.5	382.8
117.5°	175.8	207.0	236.6	261.2	287.5	308.8	326.9	338.4	348.3	354.8	358.1
120°	161.0	190.6	216.8	241.5	266.1	285.8	302.3	313.8	325.3	330.2	330.2
122.5°	146.2	174.1	198.8	221.8	244.8	262.8	280.9	290.8	300.6	305.6	305.6
125°	133.1	159.3	182.3	203.7	225.1	241.5	256.3	267.8	277.6	280.9	280.9
127.5°	119.9	144.6	165.9	185.6	203.7	220.1	234.9	246.4	254.6	257.9	257.9
130°	108.4	129.8	149.5	169.2	187.3	200.4	215.2	225.1	230.0	234.9	236.6
132.5°	96.9	116.6	134.7	151.1	169.2	182.3	193.8	203.7	208.6	213.6	215.2
135°	85.4	103.5	119.9	136.3	151.1	164.3	174.1	182.3	188.9	192.2	193.8
137.5°	72.3	92.0	106.8	119.9	136.3	146.2	157.7	162.6	169.2	172.5	172.5
140°	60.8	75.6	92.0	105.1	118.3	128.1	138.0	146.2	151.1	152.8	152.8
142.5°	49.3	62.4	75.6	92.0	103.5	111.7	121.6	128.1	131.4	133.1	134.7
145°	39.4	49.3	60.8	75.6	88.7	98.6	103.5	110.1	113.4	115.0	116.6
147.5°	29.6	39.4	49.3	59.1	72.3	82.1	87.1	93.6	96.9	98.6	98.6
150°	23.0	29.6	36.1	46.0	55.9	67.4	73.9	78.9	80.5	82.1	82.1
152.5°	16.4	23.0	27.9	34.5	41.1	50.9	60.8	64.1	65.7	67.4	67.4
155°	11.5	16.4	19.7	24.6	29.6	37.8	46.0	50.9	52.6	54.2	54.2
157.5°	8.2	11.5	13.1	18.1	21.4	24.6	31.2	39.4	41.1	41.1	41.1
160°	4.9	6.6	8.2	11.5	13.1	16.4	19.7	24.6	29.6	29.6	29.6
162.5°	3.3	4.9	4.9	6.6	6.6	9.9	11.5	13.1	18.1	19.7	19.7
165°	1.6	3.3	3.3	3.3	3.3	3.3	4.9	4.9	8.2	9.9	9.9
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L940-CD1-U

CANDELA DISTRIBUTION (continued):

	275°	280°	285°	290°	295°	300°	305°	310°	315°	320°	325°
0°	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3
2.5°	1554.0	1557.3	1555.7	1555.7	1555.7	1559.0	1555.7	1540.9	1544.2	1547.5	1550.8
5°	1552.4	1554.0	1554.0	1552.4	1552.4	1555.7	1552.4	1537.6	1540.9	1544.2	1545.8
7.5°	1545.8	1547.5	1547.5	1547.5	1545.8	1549.1	1544.2	1531.1	1531.1	1534.3	1536.0
10°	1537.6	1540.9	1539.3	1537.6	1537.6	1537.6	1534.3	1519.6	1519.6	1521.2	1522.8
12.5°	1527.8	1527.8	1527.8	1526.1	1524.5	1524.5	1521.2	1506.4	1504.8	1508.1	1506.4
15°	1514.6	1517.9	1514.6	1513.0	1509.7	1509.7	1504.8	1490.0	1486.7	1488.3	1486.7
17.5°	1503.1	1504.8	1501.5	1498.2	1494.9	1493.3	1488.3	1471.9	1467.0	1468.6	1465.3
20°	1491.6	1491.6	1488.3	1485.1	1480.1	1475.2	1468.6	1452.2	1444.0	1444.0	1437.4
22.5°	1476.8	1476.8	1473.6	1468.6	1463.7	1457.1	1450.6	1434.1	1421.0	1417.7	1412.8
25°	1460.4	1458.8	1457.1	1452.2	1442.3	1435.8	1429.2	1411.1	1396.3	1389.8	1381.6
27.5°	1440.7	1440.7	1435.8	1430.8	1421.0	1412.8	1404.6	1388.1	1368.4	1360.2	1348.7
30°	1419.3	1419.3	1414.4	1407.8	1398.0	1388.1	1378.3	1358.6	1338.8	1327.3	1314.2
32.5°	1398.0	1396.3	1391.4	1384.8	1375.0	1360.2	1352.0	1332.3	1309.3	1296.1	1278.1
35°	1371.7	1370.1	1365.1	1356.9	1343.8	1332.3	1319.1	1301.1	1274.8	1258.4	1238.6
37.5°	1345.4	1343.8	1340.5	1329.0	1315.8	1302.7	1286.3	1268.2	1243.6	1222.2	1202.5
40°	1319.1	1317.5	1310.9	1302.7	1286.3	1269.9	1253.4	1235.4	1209.1	1184.4	1163.1
42.5°	1291.2	1289.6	1281.4	1271.5	1253.4	1237.0	1217.3	1197.6	1171.3	1141.7	1120.4
45°	1263.3	1260.0	1251.8	1240.3	1220.6	1202.5	1182.8	1159.8	1133.5	1105.6	1077.6
47.5°	1233.7	1228.8	1220.6	1204.1	1187.7	1168.0	1145.0	1120.4	1094.1	1062.9	1033.3
50°	1200.9	1197.6	1187.7	1172.9	1153.2	1133.5	1107.2	1082.6	1051.4	1021.8	985.7
52.5°	1169.6	1163.1	1154.9	1138.4	1118.7	1097.4	1069.4	1039.9	1008.7	980.7	942.9
55°	1136.8	1133.5	1122.0	1108.9	1084.2	1059.6	1033.3	1002.1	967.6	934.7	898.6
57.5°	1105.6	1099.0	1089.1	1071.1	1049.7	1025.1	997.2	964.3	926.5	892.0	852.6
60°	1074.4	1064.5	1053.0	1036.6	1013.6	987.3	957.7	923.2	885.4	847.7	806.6
62.5°	1039.9	1031.7	1018.5	1002.1	979.1	951.2	919.9	883.8	847.7	808.2	763.9
65°	1005.4	997.2	984.0	967.6	944.6	913.4	880.5	844.4	803.3	765.5	717.9
67.5°	970.9	962.7	947.9	929.8	906.8	877.2	842.7	805.0	763.9	722.8	673.5
70°	936.4	926.5	913.4	893.7	870.7	839.4	805.0	765.5	724.5	680.1	630.8
72.5°	901.9	893.7	877.2	859.2	834.5	803.3	768.8	729.4	686.7	640.7	591.4
75°	867.4	857.5	846.0	824.7	798.4	768.8	732.7	693.2	647.2	602.9	552.0
77.5°	832.9	824.7	809.9	788.5	763.9	732.7	696.5	657.1	611.1	565.1	510.9
80°	798.4	788.5	777.0	757.3	729.4	698.2	660.4	621.0	575.0	527.3	473.1
82.5°	763.9	754.0	740.9	721.2	694.9	663.7	627.5	584.8	538.8	489.5	438.6
85°	729.4	721.2	706.4	686.7	658.7	627.5	591.4	553.6	504.3	455.0	404.1
87.5°	694.9	686.7	671.9	652.2	625.9	594.7	558.5	519.1	471.5	425.5	369.6
90°	662.0	655.5	640.7	621.0	594.7	563.5	530.6	487.9	441.9	395.9	343.3
92.5°	632.5	625.9	612.7	593.0	570.0	535.5	502.7	461.6	415.6	368.0	317.1
95°	606.2	598.0	584.8	566.8	538.8	509.3	476.4	435.3	391.0	343.3	294.1
97.5°	576.6	568.4	555.3	535.5	512.5	481.3	448.5	409.0	364.7	320.3	271.1
100°	547.0	538.8	524.0	507.6	484.6	453.4	422.2	382.8	341.7	299.0	251.3
102.5°	517.5	509.3	496.1	479.7	456.7	428.8	397.5	359.8	318.7	276.0	231.6
105°	489.5	481.3	468.2	451.8	430.4	402.5	369.6	336.8	297.3	256.3	213.6
107.5°	461.6	453.4	441.9	425.5	404.1	377.8	346.6	312.1	276.0	236.6	195.5
110°	433.7	427.1	414.0	399.2	377.8	351.6	323.6	290.8	254.6	218.5	179.1



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L940-CD1-U

CANDELA DISTRIBUTION (continued):

	275°	280°	285°	290°	295°	300°	305°	310°	315°	320°	325°
112.5°	407.4	400.8	387.7	371.3	353.2	328.6	300.6	269.4	234.9	200.4	162.6
115°	381.1	372.9	361.4	346.6	328.6	305.6	279.3	251.3	216.8	184.0	149.5
117.5°	354.8	348.3	336.8	322.0	305.6	282.6	257.9	231.6	198.8	167.6	136.3
120°	328.6	323.6	312.1	299.0	282.6	261.2	238.2	211.9	182.3	152.8	123.2
122.5°	303.9	299.0	287.5	276.0	259.6	239.8	218.5	193.8	167.6	139.6	113.4
125°	280.9	274.3	264.5	253.0	238.2	220.1	198.8	175.8	151.1	126.5	101.9
127.5°	256.3	251.3	244.8	231.6	216.8	200.4	180.7	161.0	138.0	115.0	92.0
130°	236.6	230.0	221.8	211.9	198.8	182.3	164.3	144.6	124.8	103.5	80.5
132.5°	213.6	207.0	200.4	190.6	179.1	164.3	147.8	129.8	111.7	92.0	72.3
135°	192.2	187.3	180.7	170.8	159.3	147.8	131.4	115.0	98.6	80.5	64.1
137.5°	172.5	167.6	161.0	154.4	142.9	131.4	116.6	101.9	87.1	70.6	55.9
140°	152.8	149.5	142.9	136.3	126.5	115.0	101.9	88.7	75.6	60.8	47.6
142.5°	133.1	129.8	124.8	118.3	110.1	100.2	88.7	77.2	64.1	52.6	41.1
145°	115.0	113.4	108.4	101.9	95.3	85.4	75.6	65.7	54.2	44.4	32.9
147.5°	96.9	95.3	92.0	87.1	80.5	72.3	64.1	54.2	46.0	36.1	26.3
150°	80.5	78.9	77.2	70.6	67.4	59.1	52.6	44.4	37.8	27.9	21.4
152.5°	65.7	65.7	62.4	57.5	54.2	47.6	42.7	36.1	29.6	23.0	16.4
155°	52.6	50.9	49.3	46.0	42.7	37.8	32.9	27.9	23.0	16.4	11.5
157.5°	41.1	39.4	37.8	34.5	31.2	29.6	24.6	19.7	14.8	11.5	8.2
160°	29.6	27.9	26.3	24.6	23.0	19.7	16.4	13.1	9.9	6.6	4.9
162.5°	19.7	18.1	18.1	16.4	14.8	11.5	9.9	8.2	6.6	4.9	3.3
165°	9.9	9.9	8.2	8.2	6.6	4.9	4.9	4.9	3.3	3.3	1.6
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L940-CD1-U

CANDELA DISTRIBUTION (continued):

	330°	335°	340°	345°	350°	355°	360°
0°	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3	1557.3
2.5°	1549.1	1549.1	1555.7	1554.0	1549.1	1559.0	1570.5
5°	1544.2	1544.2	1549.1	1549.1	1544.2	1554.0	1563.9
7.5°	1536.0	1534.3	1539.3	1539.3	1532.7	1540.9	1552.4
10°	1521.2	1519.6	1524.5	1524.5	1517.9	1526.1	1536.0
12.5°	1504.8	1501.5	1506.4	1504.8	1498.2	1506.4	1516.3
15°	1483.4	1481.8	1485.1	1481.8	1475.2	1483.4	1493.3
17.5°	1462.1	1457.1	1458.8	1458.8	1447.3	1455.5	1463.7
20°	1434.1	1427.6	1429.2	1427.6	1419.3	1424.3	1434.1
22.5°	1406.2	1396.3	1396.3	1394.7	1384.8	1391.4	1399.6
25°	1371.7	1360.2	1360.2	1358.6	1347.1	1352.0	1360.2
27.5°	1337.2	1325.7	1320.8	1319.1	1307.6	1307.6	1319.1
30°	1301.1	1284.6	1281.4	1276.4	1264.9	1264.9	1274.8
32.5°	1266.6	1243.6	1237.0	1230.4	1218.9	1217.3	1228.8
35°	1220.6	1202.5	1191.0	1184.4	1171.3	1168.0	1177.9
37.5°	1182.8	1159.8	1143.4	1135.1	1122.0	1117.1	1130.2
40°	1141.7	1117.1	1095.7	1090.8	1071.1	1064.5	1076.0
42.5°	1095.7	1069.4	1048.1	1038.2	1023.4	1016.9	1018.5
45°	1049.7	1021.8	998.8	985.7	970.9	959.4	965.9
47.5°	1002.1	977.4	949.5	929.8	911.7	903.5	906.8
50°	954.4	924.9	898.6	877.2	855.9	846.0	852.6
52.5°	906.8	875.6	846.0	823.0	798.4	788.5	790.2
55°	860.8	828.0	793.5	768.8	745.8	731.0	727.7
57.5°	814.8	778.7	742.5	714.6	685.0	671.9	667.0
60°	765.5	727.7	690.0	657.1	625.9	611.1	604.5
62.5°	719.5	678.5	635.7	601.2	570.0	550.3	545.4
65°	675.2	627.5	584.8	545.4	510.9	489.5	483.0
67.5°	627.5	578.3	532.3	489.5	456.7	428.8	425.5
70°	583.2	530.6	479.7	435.3	399.2	371.3	358.1
72.5°	538.8	484.6	432.0	384.4	338.4	312.1	302.3
75°	496.1	440.3	384.4	335.1	284.2	253.0	243.1
77.5°	456.7	399.2	340.1	285.8	238.2	198.8	185.6
80°	418.9	359.8	297.3	241.5	190.6	147.8	133.1
82.5°	379.5	323.6	259.6	200.4	147.8	103.5	85.4
85°	345.0	289.1	225.1	165.9	113.4	65.7	46.0
87.5°	317.1	256.3	198.8	139.6	85.4	37.8	13.1
90°	289.1	230.0	172.5	115.0	64.1	21.4	1.6
92.5°	264.5	208.6	151.1	98.6	49.3	14.8	1.6
95°	241.5	187.3	133.1	82.1	39.4	9.9	1.6
97.5°	220.1	169.2	118.3	70.6	32.9	8.2	1.6
100°	202.1	152.8	105.1	62.4	27.9	6.6	1.6
102.5°	184.0	138.0	93.6	54.2	24.6	4.9	1.6
105°	169.2	124.8	83.8	49.3	21.4	4.9	1.6
107.5°	154.4	113.4	75.6	42.7	18.1	3.3	1.6
110°	139.6	103.5	67.4	37.8	16.4	3.3	1.6



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L940-CD1-U

CANDELA DISTRIBUTION (continued):

	330°	335°	340°	345°	350°	355°	360°
112.5°	128.1	93.6	60.8	34.5	13.1	3.3	1.6
115°	116.6	83.8	54.2	29.6	11.5	1.6	1.6
117.5°	105.1	75.6	47.6	26.3	9.9	1.6	1.6
120°	95.3	67.4	42.7	23.0	8.2	1.6	1.6
122.5°	85.4	60.8	37.8	19.7	6.6	1.6	1.6
125°	77.2	54.2	32.9	16.4	4.9	1.6	1.6
127.5°	69.0	47.6	29.6	14.8	4.9	1.6	1.6
130°	60.8	42.7	24.6	11.5	3.3	1.6	1.6
132.5°	54.2	36.1	21.4	9.9	3.3	1.6	1.6
135°	47.6	31.2	18.1	6.6	3.3	1.6	1.6
137.5°	41.1	26.3	14.8	4.9	1.6	1.6	1.6
140°	34.5	23.0	11.5	4.9	1.6	1.6	1.6
142.5°	29.6	18.1	8.2	3.3	1.6	1.6	1.6
145°	23.0	14.8	6.6	3.3	1.6	1.6	1.6
147.5°	18.1	11.5	4.9	3.3	1.6	1.6	1.6
150°	13.1	8.2	4.9	1.6	1.6	1.6	1.6
152.5°	9.9	6.6	3.3	1.6	1.6	1.6	1.6
155°	6.6	4.9	3.3	1.6	1.6	1.6	1.6
157.5°	4.9	3.3	1.6	1.6	1.6	1.6	1.6
160°	3.3	1.6	1.6	1.6	1.6	1.6	1.6
162.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6
165°	1.6	1.6	1.6	1.6	1.6	1.6	1.6
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)