

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-L930-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-L930-CD1-U  
Description: 4FT LINEAR SNLED LED FIXTURE  
WIDE FROSTED LENS  
Light Source: -  
Ballast/Driver: -

**Summary**

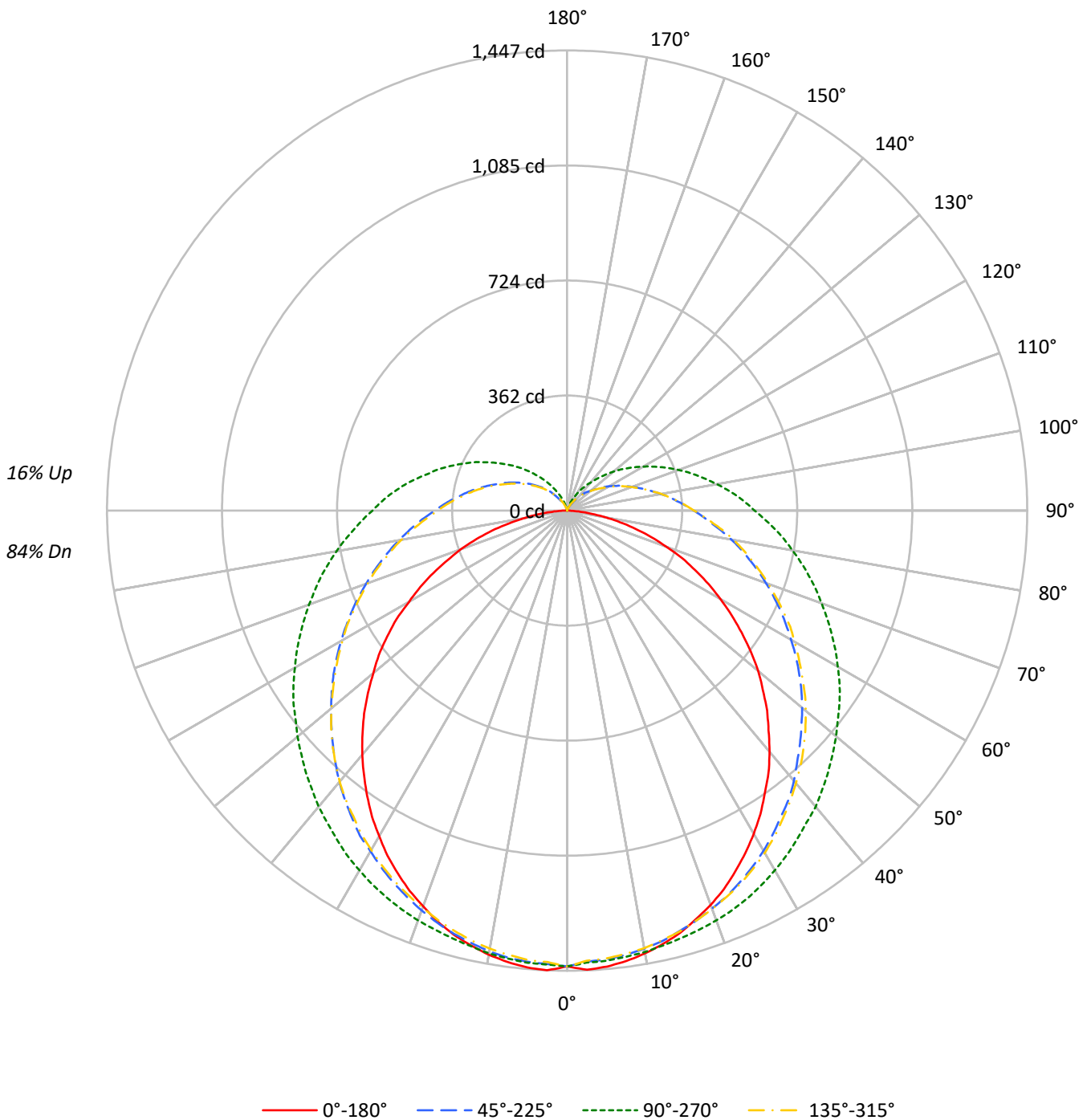
Lumens per Lamp: N/A  
Luminaire Lumens: 6227.0 lumens  
Efficiency: N/A  
Efficacy: 78.8 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.36 / 1.44  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.12')  
CIE Type: Semi-Direct

Input Watts (W): 79  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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



TEST NUMBER: P#  
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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°	11583	11583	11583	11583
5°	11644	11162	11668	11209
10°	11536	10845	11574	10879
15°	11402	10573	11453	10585
20°	11223	10375	11261	10375
25°	11001	10199	11068	10188
30°	10753	10018	10837	10018
35°	10465	9850	10582	9862
40°	10180	9752	10304	9752
45°	9852	9648	10003	9660
50°	9511	9587	9639	9613
55°	9034	9596	9318	9638
60°	8531	9625	8808	9684
65°	7966	9722	8319	9818
70°	7172	9901	7731	10041
75°	6258	10224	6848	10420
80°	4843	10704	5499	10951
85°	2890	11472	3614	11791



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	135.8	2.2
10°-20°	390.2	6.3
20°-30°	598.3	9.6
30°-40°	738.1	11.9
40°-50°	800.8	12.9
50°-60°	789.3	12.7
60°-70°	713.6	11.5
70°-80°	594.5	9.5
80°-90°	460.4	7.4
90°-100°	349.2	5.6
100°-110°	258.4	4.1
110°-120°	179.8	2.9
120°-130°	114.7	1.8
130°-140°	64.3	1.0
140°-150°	29.4	0.5
150°-160°	9.1	0.1
160°-170°	1.1	0.0
170°-180°	0.0	0.0
0°-30°	1124.3	18.1
0°-40°	1862.4	29.9
0°-60°	3452.4	55.4
0°-90°	5220.9	83.8
90°-120°	787.4	12.6
90°-150°	995.8	16.0
90°-180°	1006.0	16.2
0°-180°	6227.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1433	1433	1433	1433	1433	
5°	1439	1421	1442	1427	1439	137
15°	1374	1391	1380	1392	1374	387
25°	1252	1344	1259	1343	1252	577
35°	1084	1261	1096	1262	1084	679
45°	889	1161	903	1163	889	685
55°	670	1046	691	1051	670	599
65°	444	918	464	927	444	441
75°	224	786	245	801	224	237
85°	42	655	53	673	42	51
90°	2	590	3	612	2	2
95°	2	535	2	561	2	1
105°	2	425	2	450	2	2
115°	2	324	2	352	2	1
125°	2	233	2	258	2	1
135°	2	151	2	178	2	1
145°	2	88	2	107	2	1
155°	2	36	2	50	2	1
165°	2	6	2	9	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°	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3
2.5°	1445.4	1445.4	1443.9	1440.8	1442.3	1446.9	1443.9	1436.3	1431.8	1419.7	1422.7
5°	1439.3	1439.3	1437.8	1434.8	1436.3	1442.3	1439.3	1433.3	1427.2	1416.6	1421.2
7.5°	1428.7	1428.7	1427.2	1424.2	1427.2	1433.3	1430.2	1424.2	1419.7	1409.1	1413.6
10°	1413.6	1415.1	1413.6	1409.1	1415.1	1421.2	1419.7	1412.1	1407.6	1398.5	1403.0
12.5°	1395.5	1397.0	1395.5	1394.0	1397.0	1406.1	1403.0	1397.0	1394.0	1386.4	1390.9
15°	1374.3	1375.8	1372.8	1372.8	1375.8	1384.9	1384.9	1378.8	1375.8	1368.3	1377.3
17.5°	1347.1	1348.6	1347.1	1347.1	1350.1	1359.2	1360.7	1357.7	1354.7	1351.6	1360.7
20°	1319.9	1318.4	1318.4	1316.9	1322.9	1336.5	1335.0	1335.0	1332.0	1332.0	1342.6
22.5°	1288.1	1288.1	1286.6	1286.6	1294.2	1306.3	1306.3	1309.3	1306.3	1312.3	1321.4
25°	1251.8	1253.4	1251.8	1254.9	1260.9	1274.5	1276.0	1280.6	1282.1	1288.1	1298.7
27.5°	1214.0	1215.6	1214.0	1217.1	1227.7	1238.2	1245.8	1251.8	1253.4	1262.4	1276.0
30°	1173.2	1173.2	1174.7	1177.8	1189.9	1206.5	1212.5	1220.1	1220.1	1235.2	1248.8
32.5°	1130.9	1130.9	1130.9	1136.9	1150.5	1170.2	1177.8	1186.8	1189.9	1205.0	1220.1
35°	1084.0	1085.5	1085.5	1090.1	1108.2	1127.9	1138.5	1149.0	1155.1	1173.2	1188.3
37.5°	1040.2	1043.2	1038.7	1044.7	1070.4	1087.0	1099.1	1109.7	1120.3	1144.5	1156.6
40°	990.3	993.3	991.8	1003.9	1025.1	1046.2	1059.8	1070.4	1085.5	1109.7	1123.3
42.5°	937.4	940.4	943.4	957.0	979.7	1000.9	1017.5	1031.1	1049.3	1070.4	1093.1
45°	889.0	889.0	893.5	910.2	934.3	957.0	976.7	991.8	1013.0	1035.6	1058.3
47.5°	834.6	836.1	842.1	861.8	887.5	914.7	932.8	952.5	975.2	999.4	1025.1
50°	784.7	784.7	793.7	814.9	839.1	869.3	889.0	911.7	935.9	964.6	990.3
52.5°	727.2	730.2	743.9	763.5	795.3	822.5	845.1	869.3	898.1	928.3	957.0
55°	669.8	675.8	686.4	713.6	746.9	772.6	799.8	830.0	857.2	890.5	923.8
57.5°	613.8	618.4	635.0	662.2	697.0	728.7	757.5	786.2	819.4	852.7	887.5
60°	556.4	562.4	582.1	609.3	647.1	680.4	713.6	743.9	778.6	813.4	849.7
62.5°	501.9	506.5	529.2	560.9	598.7	635.0	668.3	704.5	742.3	775.6	811.9
65°	444.5	452.1	477.8	506.5	550.3	586.6	624.4	663.7	703.0	739.3	774.1
67.5°	391.6	396.1	423.3	456.6	500.4	541.3	580.6	622.9	663.7	701.5	736.3
70°	329.6	344.7	371.9	406.7	453.6	495.9	538.2	582.1	625.9	665.2	698.5
72.5°	278.2	290.3	320.5	358.3	403.7	453.6	497.4	544.3	588.1	628.9	663.7
75°	223.8	235.9	270.6	313.0	359.8	412.7	458.1	506.5	551.8	592.7	628.9
77.5°	170.8	186.0	223.8	267.6	319.0	373.4	420.3	468.7	515.6	559.4	595.7
80°	122.5	139.1	179.9	229.8	279.7	334.1	385.5	433.9	480.8	524.6	562.4
82.5°	78.6	96.8	140.6	190.5	243.4	297.8	350.8	399.1	446.0	489.9	529.2
85°	42.3	62.0	107.3	157.2	210.2	264.6	317.5	368.9	414.3	455.1	497.4
87.5°	12.1	36.3	80.1	130.0	184.5	234.3	285.7	337.2	382.5	426.4	464.2
90°	1.5	21.2	60.5	107.3	160.3	208.6	260.0	308.4	353.8	397.6	435.4
92.5°	1.5	13.6	46.9	89.2	137.6	187.5	238.9	285.7	328.1	371.9	409.7
95°	1.5	10.6	37.8	75.6	121.0	167.8	216.2	261.6	305.4	346.2	384.0
97.5°	1.5	7.6	30.2	65.0	105.8	149.7	196.5	241.9	284.2	323.5	358.3
100°	1.5	6.0	24.2	55.9	92.2	134.6	176.9	220.7	261.6	299.4	335.6
102.5°	1.5	4.5	21.2	46.9	81.6	119.4	160.3	201.1	240.4	276.7	313.0
105°	1.5	4.5	18.1	40.8	72.6	107.3	145.1	184.5	220.7	255.5	288.8
107.5°	1.5	3.0	15.1	34.8	63.5	96.8	131.5	169.3	202.6	235.9	267.6
110°	1.5	3.0	12.1	31.7	55.9	86.2	119.4	154.2	186.0	217.7	248.0



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L930-CD1-U

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1.5	3.0	10.6	27.2	48.4	77.1	107.3	139.1	169.3	201.1	228.3
115°	1.5	3.0	9.1	24.2	45.4	66.5	96.8	125.5	155.7	184.5	210.2
117.5°	1.5	3.0	7.6	19.7	39.3	60.5	84.7	113.4	140.6	167.8	192.0
120°	1.5	3.0	6.0	18.1	34.8	54.4	75.6	101.3	127.0	152.7	178.4
122.5°	1.5	1.5	6.0	15.1	30.2	48.4	69.5	89.2	113.4	137.6	160.3
125°	1.5	1.5	6.0	13.6	25.7	43.8	62.0	80.1	101.3	122.5	142.1
127.5°	1.5	1.5	4.5	10.6	22.7	37.8	54.4	74.1	89.2	108.9	128.5
130°	1.5	1.5	4.5	9.1	19.7	31.7	48.4	65.0	83.2	96.8	113.4
132.5°	1.5	1.5	4.5	7.6	15.1	25.7	40.8	55.9	72.6	87.7	101.3
135°	1.5	1.5	3.0	6.0	12.1	21.2	33.3	46.9	63.5	78.6	92.2
137.5°	1.5	1.5	3.0	6.0	9.1	18.1	25.7	37.8	52.9	66.5	80.1
140°	1.5	1.5	3.0	4.5	7.6	13.6	21.2	30.2	42.3	54.4	69.5
142.5°	1.5	1.5	1.5	4.5	6.0	10.6	16.6	24.2	33.3	43.8	55.9
145°	1.5	1.5	1.5	4.5	6.0	7.6	13.6	19.7	25.7	33.3	43.8
147.5°	1.5	1.5	1.5	3.0	4.5	6.0	10.6	15.1	19.7	25.7	31.7
150°	1.5	1.5	1.5	3.0	4.5	6.0	7.6	10.6	15.1	21.2	25.7
152.5°	1.5	1.5	1.5	3.0	3.0	4.5	6.0	7.6	10.6	15.1	18.1
155°	1.5	1.5	1.5	1.5	3.0	4.5	6.0	6.0	7.6	10.6	13.6
157.5°	1.5	1.5	1.5	1.5	3.0	3.0	4.5	4.5	6.0	6.0	9.1
160°	1.5	1.5	1.5	1.5	1.5	3.0	3.0	4.5	4.5	4.5	4.5
162.5°	1.5	1.5	1.5	1.5	1.5	1.5	3.0	3.0	3.0	4.5	4.5
165°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3.0	3.0	3.0
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°	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3
2.5°	1422.7	1424.2	1428.7	1428.7	1425.7	1425.7	1424.2	1422.7	1424.2	1427.2	1427.2
5°	1419.7	1421.2	1425.7	1427.2	1424.2	1422.7	1422.7	1421.2	1422.7	1425.7	1425.7
7.5°	1413.6	1415.1	1419.7	1421.2	1418.2	1418.2	1416.6	1415.1	1418.2	1419.7	1419.7
10°	1404.5	1406.1	1412.1	1413.6	1412.1	1410.6	1410.6	1409.1	1410.6	1413.6	1413.6
12.5°	1392.5	1395.5	1403.0	1403.0	1403.0	1401.5	1401.5	1400.0	1401.5	1404.5	1403.0
15°	1378.8	1384.9	1390.9	1394.0	1394.0	1394.0	1392.5	1390.9	1394.0	1395.5	1394.0
17.5°	1363.7	1371.3	1380.4	1383.4	1383.4	1384.9	1383.4	1381.9	1384.9	1384.9	1383.4
20°	1348.6	1356.2	1365.2	1368.3	1371.3	1372.8	1372.8	1371.3	1372.8	1374.3	1372.8
22.5°	1329.0	1338.0	1348.6	1353.1	1356.2	1359.2	1359.2	1359.2	1360.7	1362.2	1359.2
25°	1307.8	1318.4	1330.5	1335.0	1341.0	1342.6	1344.1	1344.1	1345.6	1347.1	1342.6
27.5°	1285.1	1297.2	1309.3	1316.9	1321.4	1324.4	1324.4	1325.9	1327.4	1329.0	1324.4
30°	1257.9	1276.0	1286.6	1292.7	1298.7	1303.3	1304.8	1306.3	1307.8	1309.3	1304.8
32.5°	1233.7	1248.8	1262.4	1270.0	1277.5	1283.6	1285.1	1285.1	1288.1	1288.1	1283.6
35°	1205.0	1223.1	1236.7	1244.3	1253.4	1257.9	1260.9	1260.9	1263.9	1263.9	1259.4
37.5°	1176.3	1194.4	1209.5	1218.6	1229.2	1235.2	1236.7	1236.7	1239.8	1239.8	1233.7
40°	1146.0	1165.7	1182.3	1192.9	1202.0	1209.5	1211.0	1215.6	1215.6	1214.0	1208.0
42.5°	1115.8	1133.9	1152.1	1164.2	1176.3	1183.8	1186.8	1188.3	1188.3	1186.8	1182.3
45°	1082.5	1103.7	1120.3	1135.4	1147.5	1155.1	1159.6	1161.1	1161.1	1158.1	1153.6
47.5°	1050.8	1071.9	1088.6	1105.2	1117.3	1126.4	1130.9	1132.4	1130.9	1129.4	1124.8
50°	1017.5	1041.7	1058.3	1075.0	1087.0	1094.6	1102.2	1103.7	1102.2	1100.7	1091.6
52.5°	982.7	1008.4	1026.6	1043.2	1056.8	1065.9	1071.9	1073.4	1073.4	1070.4	1064.4
55°	948.0	970.6	993.3	1011.5	1026.6	1035.6	1043.2	1046.2	1043.2	1040.2	1032.6
57.5°	916.2	937.4	960.1	979.7	994.8	1006.9	1013.0	1016.0	1013.0	1008.4	1000.9
60°	878.4	901.1	926.8	944.9	961.6	973.7	976.7	982.7	979.7	975.2	967.6
62.5°	842.1	869.3	892.0	914.7	928.3	941.9	948.0	951.0	948.0	943.4	935.9
65°	804.3	834.6	857.2	879.9	895.0	908.6	916.2	917.7	914.7	910.2	902.6
67.5°	769.6	798.3	822.5	846.7	860.3	873.9	881.4	884.5	881.4	875.4	867.8
70°	734.8	763.5	792.2	810.4	827.0	842.1	846.7	851.2	848.2	842.1	833.1
72.5°	700.0	730.2	759.0	777.1	795.3	808.9	814.9	819.4	816.4	810.4	799.8
75°	663.7	695.5	724.2	743.9	762.0	775.6	781.6	786.2	783.2	777.1	765.0
77.5°	630.5	662.2	689.4	710.6	728.7	740.8	751.4	752.9	749.9	743.9	731.8
80°	595.7	627.4	656.2	677.3	695.5	707.6	715.1	719.7	716.6	710.6	698.5
82.5°	565.4	594.2	622.9	644.1	662.2	677.3	683.4	687.9	686.4	677.3	668.3
85°	532.2	565.4	588.1	610.8	628.9	644.1	648.6	654.6	653.1	645.6	633.5
87.5°	498.9	532.2	559.4	582.1	598.7	610.8	618.4	621.4	619.9	612.3	598.7
90°	471.7	501.9	529.2	553.4	567.0	580.6	588.1	589.6	589.6	580.6	570.0
92.5°	446.0	474.7	501.9	524.6	541.3	553.4	559.4	562.4	560.9	553.4	541.3
95°	417.3	449.0	474.7	497.4	514.0	526.1	532.2	535.2	533.7	526.1	514.0
97.5°	393.1	421.8	447.5	468.7	485.3	497.4	503.5	506.5	506.5	498.9	486.8
100°	368.9	397.6	421.8	443.0	458.1	470.2	476.2	477.8	476.2	470.2	458.1
102.5°	344.7	371.9	396.1	415.8	432.4	443.0	449.0	450.5	450.5	443.0	430.9
105°	320.5	347.7	370.4	391.6	405.2	415.8	420.3	424.8	423.3	417.3	405.2
107.5°	297.8	325.1	346.2	365.9	379.5	390.1	394.6	399.1	397.6	391.6	379.5
110°	276.7	302.4	322.0	341.7	353.8	364.4	371.9	373.4	370.4	364.4	353.8





TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L930-CD1-U

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	257.0	279.7	299.4	317.5	331.1	338.7	344.7	347.7	344.7	338.7	331.1
115°	235.9	258.5	278.2	294.8	306.9	316.0	320.5	323.5	320.5	314.5	306.9
117.5°	216.2	237.4	257.0	273.7	284.2	291.8	296.3	299.4	296.3	291.8	284.2
120°	199.6	217.7	235.9	251.0	263.1	269.1	273.7	276.7	275.2	269.1	261.6
122.5°	179.9	199.6	216.2	231.3	241.9	248.0	251.0	254.0	252.5	248.0	240.4
125°	163.3	179.9	196.5	210.2	220.7	226.8	229.8	232.8	231.3	226.8	217.7
127.5°	145.1	163.3	176.9	190.5	198.1	207.1	208.6	211.7	210.2	205.6	198.1
130°	131.5	145.1	158.7	170.8	179.9	186.0	189.0	190.5	187.5	184.5	176.9
132.5°	114.9	130.0	142.1	152.7	158.7	164.8	167.8	169.3	169.3	164.8	158.7
135°	102.8	113.4	124.0	134.6	140.6	146.7	149.7	151.2	149.7	146.7	140.6
137.5°	92.2	101.3	108.9	117.9	125.5	128.5	131.5	131.5	130.0	128.5	124.0
140°	80.1	90.7	98.3	104.3	110.4	111.9	114.9	114.9	113.4	111.9	108.9
142.5°	68.0	77.1	84.7	92.2	96.8	99.8	101.3	102.8	101.3	99.8	95.2
145°	54.4	65.0	72.6	77.1	83.2	84.7	86.2	87.7	86.2	84.7	80.1
147.5°	42.3	51.4	59.0	65.0	69.5	71.1	72.6	74.1	72.6	69.5	68.0
150°	30.2	37.8	46.9	52.9	55.9	59.0	59.0	59.0	60.5	57.5	54.4
152.5°	24.2	27.2	33.3	39.3	43.8	45.4	46.9	46.9	45.4	45.4	42.3
155°	16.6	19.7	24.2	28.7	33.3	34.8	36.3	36.3	34.8	34.8	33.3
157.5°	10.6	13.6	16.6	19.7	24.2	25.7	27.2	27.2	27.2	25.7	24.2
160°	6.0	7.6	9.1	12.1	15.1	16.6	18.1	18.1	18.1	18.1	16.6
162.5°	4.5	4.5	4.5	6.0	7.6	9.1	10.6	10.6	10.6	10.6	9.1
165°	3.0	3.0	3.0	3.0	3.0	4.5	6.0	6.0	6.0	6.0	6.0
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-L930-CD1-U

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3
2.5°	1425.7	1425.7	1427.2	1424.2	1415.1	1416.6	1416.6	1422.7	1425.7	1427.2	1434.8
5°	1422.7	1422.7	1425.7	1421.2	1413.6	1413.6	1413.6	1419.7	1421.2	1424.2	1430.2
7.5°	1418.2	1418.2	1419.7	1415.1	1406.1	1406.1	1404.5	1410.6	1413.6	1415.1	1421.2
10°	1410.6	1410.6	1412.1	1407.6	1397.0	1397.0	1395.5	1400.0	1401.5	1404.5	1409.1
12.5°	1400.0	1400.0	1400.0	1395.5	1384.9	1383.4	1381.9	1386.4	1386.4	1387.9	1392.5
15°	1390.9	1387.9	1387.9	1383.4	1372.8	1369.8	1366.7	1368.3	1371.3	1369.8	1372.8
17.5°	1380.4	1377.3	1374.3	1369.8	1356.2	1351.6	1348.6	1350.1	1348.6	1347.1	1350.1
20°	1368.3	1363.7	1362.2	1354.7	1341.0	1333.5	1327.4	1324.4	1325.9	1321.4	1322.9
22.5°	1354.7	1348.6	1345.6	1336.5	1322.9	1313.8	1306.3	1300.2	1298.7	1292.7	1294.2
25°	1338.0	1330.5	1325.9	1318.4	1303.3	1292.7	1283.6	1274.5	1270.0	1262.4	1260.9
27.5°	1318.4	1310.8	1304.8	1297.2	1282.1	1268.5	1257.9	1245.8	1239.8	1230.7	1226.1
30°	1298.7	1289.6	1280.6	1274.5	1257.9	1242.8	1226.1	1215.6	1206.5	1195.9	1188.3
32.5°	1274.5	1265.5	1256.4	1247.3	1232.2	1214.0	1200.4	1183.8	1173.2	1161.1	1152.1
35°	1250.3	1238.2	1229.2	1217.1	1203.5	1182.3	1165.7	1149.0	1135.4	1121.8	1111.2
37.5°	1223.1	1214.0	1200.4	1189.9	1173.2	1152.1	1133.9	1112.8	1100.7	1082.5	1068.9
40°	1197.4	1186.8	1173.2	1159.6	1143.0	1118.8	1099.1	1075.0	1061.3	1040.2	1026.6
42.5°	1171.7	1156.6	1143.0	1127.9	1109.7	1087.0	1062.9	1038.7	1020.5	1000.9	981.2
45°	1143.0	1126.4	1109.7	1093.1	1075.0	1052.3	1026.6	1000.9	978.2	960.1	935.9
47.5°	1112.8	1096.1	1076.5	1058.3	1038.7	1016.0	988.8	961.6	937.4	916.2	890.5
50°	1082.5	1065.9	1044.7	1025.1	1002.4	979.7	951.0	919.2	893.5	866.3	843.6
52.5°	1050.8	1034.1	1014.5	988.8	964.6	941.9	911.7	878.4	849.7	827.0	798.3
55°	1019.0	1002.4	979.7	954.0	929.8	901.1	872.4	839.1	807.3	780.1	751.4
57.5°	985.8	970.6	944.9	923.8	893.5	863.3	833.1	801.3	766.5	734.8	701.5
60°	952.5	935.9	911.7	886.0	855.7	825.5	793.7	759.0	722.7	687.9	657.7
62.5°	922.3	901.1	878.4	851.2	819.4	790.7	754.4	716.6	680.4	644.1	607.8
65°	887.5	864.8	843.6	816.4	783.2	749.9	713.6	675.8	636.5	597.2	560.9
67.5°	852.7	830.0	807.3	780.1	745.4	710.6	672.8	635.0	591.1	553.4	511.0
70°	817.9	799.8	771.1	742.3	710.6	672.8	635.0	594.2	548.8	508.0	464.2
72.5°	783.2	765.0	736.3	706.1	675.8	636.5	595.7	554.9	512.5	465.7	418.8
75°	749.9	727.2	701.5	672.8	641.0	600.2	559.4	517.1	467.2	423.3	374.9
77.5°	718.1	697.0	671.3	639.5	604.8	565.4	523.1	479.3	429.4	382.5	329.6
80°	683.4	662.2	636.5	604.8	570.0	532.2	486.8	441.5	393.1	341.7	287.3
82.5°	650.1	630.5	601.7	573.0	535.2	497.4	452.1	406.7	355.3	305.4	252.5
85°	615.3	595.7	568.5	538.2	501.9	461.1	418.8	373.4	322.0	270.6	217.7
87.5°	585.1	562.4	535.2	505.0	468.7	429.4	388.6	340.2	290.3	240.4	186.0
90°	553.4	532.2	505.0	474.7	438.4	399.1	356.8	311.4	263.1	211.7	160.3
92.5°	526.1	503.5	477.8	447.5	411.2	373.4	331.1	285.7	238.9	189.0	139.1
95°	498.9	476.2	452.1	421.8	385.5	347.7	305.4	261.6	216.2	167.8	121.0
97.5°	468.7	449.0	424.8	396.1	359.8	323.5	282.7	240.4	196.5	149.7	105.8
100°	444.5	421.8	399.1	368.9	335.6	300.9	260.0	219.2	176.9	133.0	92.2
102.5°	417.3	396.1	373.4	344.7	311.4	276.7	238.9	199.6	160.3	119.4	80.1
105°	391.6	371.9	347.7	320.5	288.8	255.5	219.2	182.9	145.1	105.8	71.1
107.5°	365.9	346.2	323.5	297.8	267.6	234.3	201.1	164.8	130.0	95.2	63.5
110°	340.2	322.0	300.9	275.2	246.4	216.2	184.5	151.2	116.4	84.7	55.9



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L930-CD1-U

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	317.5	299.4	278.2	254.0	226.8	198.1	167.8	136.1	104.3	75.6	48.4
115°	294.8	278.2	257.0	235.9	208.6	181.4	152.7	122.5	93.7	68.0	42.3
117.5°	272.1	255.5	235.9	214.7	190.5	164.8	137.6	108.9	84.7	60.5	37.8
120°	249.5	234.3	216.2	196.5	175.4	149.7	122.5	98.3	75.6	52.9	33.3
122.5°	228.3	214.7	198.1	179.9	157.2	133.0	110.4	89.2	68.0	46.9	27.2
125°	208.6	195.0	179.9	161.8	140.6	119.4	99.8	80.1	59.0	40.8	22.7
127.5°	189.0	175.4	160.3	143.6	127.0	107.3	89.2	71.1	52.9	36.3	19.7
130°	169.3	157.2	143.6	130.0	113.4	95.2	80.1	62.0	45.4	28.7	16.6
132.5°	149.7	140.6	128.5	114.9	99.8	86.2	69.5	54.4	39.3	25.7	15.1
135°	133.0	124.0	113.4	101.3	89.2	75.6	60.5	46.9	33.3	21.2	12.1
137.5°	117.9	110.4	99.8	89.2	78.6	65.0	52.9	39.3	27.2	18.1	9.1
140°	104.3	96.8	87.7	77.1	68.0	55.9	43.8	31.7	24.2	15.1	7.6
142.5°	90.7	83.2	75.6	66.5	57.5	46.9	36.3	27.2	19.7	12.1	7.6
145°	77.1	71.1	63.5	55.9	46.9	37.8	30.2	22.7	15.1	9.1	6.0
147.5°	63.5	59.0	51.4	45.4	37.8	30.2	24.2	18.1	12.1	7.6	4.5
150°	51.4	46.9	40.8	34.8	30.2	24.2	19.7	13.6	9.1	7.6	4.5
152.5°	39.3	36.3	31.7	28.7	24.2	18.1	13.6	10.6	7.6	6.0	3.0
155°	31.7	28.7	25.7	21.2	18.1	13.6	10.6	7.6	6.0	4.5	3.0
157.5°	22.7	21.2	18.1	15.1	12.1	9.1	7.6	7.6	4.5	3.0	1.5
160°	15.1	13.6	12.1	9.1	7.6	7.6	6.0	4.5	3.0	3.0	1.5
162.5°	9.1	7.6	7.6	7.6	6.0	6.0	4.5	3.0	3.0	1.5	1.5
165°	6.0	6.0	6.0	4.5	4.5	4.5	3.0	1.5	1.5	1.5	1.5
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-L930-CD1-U

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°	185°	190°	195°	200°	205°	210°	215°
0°	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3
2.5°	1434.8	1430.2	1436.3	1446.9	1448.4	1446.9	1443.9	1448.4	1454.4	1452.9	1442.3
5°	1431.8	1425.7	1431.8	1442.3	1442.3	1440.8	1439.3	1443.9	1449.9	1448.4	1439.3
7.5°	1422.7	1416.6	1422.7	1431.8	1433.3	1430.2	1430.2	1434.8	1440.8	1439.3	1431.8
10°	1410.6	1404.5	1407.6	1418.2	1421.2	1418.2	1418.2	1422.7	1430.2	1428.7	1419.7
12.5°	1392.5	1387.9	1390.9	1400.0	1403.0	1401.5	1400.0	1406.1	1413.6	1413.6	1404.5
15°	1372.8	1366.7	1369.8	1380.4	1381.9	1378.8	1380.4	1384.9	1394.0	1394.0	1386.4
17.5°	1350.1	1342.6	1347.1	1354.7	1356.2	1356.2	1356.2	1362.2	1372.8	1371.3	1365.2
20°	1324.4	1313.8	1316.9	1324.4	1327.4	1327.4	1327.4	1338.0	1345.6	1345.6	1339.5
22.5°	1294.2	1286.6	1286.6	1294.2	1298.7	1297.2	1297.2	1306.3	1316.9	1315.3	1315.3
25°	1259.4	1253.4	1250.3	1259.4	1260.9	1262.4	1265.5	1274.5	1286.6	1286.6	1288.1
27.5°	1223.1	1217.1	1215.6	1223.1	1224.6	1226.1	1229.2	1239.8	1251.8	1253.4	1256.4
30°	1188.3	1179.3	1176.3	1182.3	1185.3	1186.8	1186.8	1203.5	1214.0	1218.6	1224.6
32.5°	1147.5	1138.5	1130.9	1141.5	1143.0	1146.0	1147.5	1164.2	1176.3	1183.8	1192.9
35°	1106.7	1091.6	1088.6	1096.1	1099.1	1100.7	1103.7	1121.8	1138.5	1144.5	1156.6
37.5°	1061.3	1050.8	1041.7	1049.3	1052.3	1053.8	1062.9	1079.5	1096.1	1105.2	1117.3
40°	1019.0	1005.4	997.8	1002.4	1005.4	1006.9	1017.5	1035.6	1055.3	1065.9	1081.0
42.5°	972.1	954.0	948.0	952.5	954.0	958.5	967.6	991.8	1011.5	1026.6	1038.7
45°	925.3	911.7	898.1	902.6	904.1	907.1	920.7	946.4	967.6	985.8	999.4
47.5°	876.9	860.3	846.7	849.7	855.7	857.2	872.4	902.6	922.3	941.9	960.1
50°	828.5	805.8	795.3	795.3	798.3	805.8	825.5	855.7	876.9	899.6	919.2
52.5°	778.6	757.5	745.4	746.9	749.9	759.0	777.1	807.3	831.5	855.7	879.9
55°	728.7	706.1	694.0	690.9	694.0	706.1	727.2	759.0	783.2	811.9	837.6
57.5°	678.8	651.6	641.0	636.5	639.5	654.6	675.8	709.1	739.3	766.5	796.8
60°	624.4	603.2	585.1	574.5	582.1	601.7	624.4	659.2	690.9	721.2	754.4
62.5°	577.5	550.3	530.7	520.1	527.6	544.3	576.0	609.3	644.1	678.8	712.1
65°	524.6	497.4	474.7	464.2	471.7	491.4	523.1	559.4	597.2	632.0	671.3
67.5°	473.2	444.5	417.3	406.7	415.8	436.9	471.7	512.5	553.4	589.6	632.0
70°	423.3	391.6	362.9	355.3	361.3	390.1	423.3	464.2	506.5	548.8	592.7
72.5°	378.0	338.7	308.4	299.4	306.9	338.7	376.5	418.8	464.2	509.5	556.4
75°	325.1	288.8	255.5	244.9	254.0	282.7	329.6	374.9	423.3	471.7	515.6
77.5°	282.7	240.4	205.6	189.0	204.1	240.4	285.7	334.1	384.0	433.9	483.8
80°	238.9	195.0	157.2	139.1	155.7	195.0	240.4	293.3	349.2	399.1	444.5
82.5°	199.6	152.7	113.4	93.7	111.9	155.7	205.6	258.5	313.0	362.9	415.8
85°	163.3	114.9	74.1	52.9	78.6	117.9	170.8	225.3	281.2	332.6	384.0
87.5°	133.0	86.2	45.4	22.7	48.4	92.2	142.1	196.5	252.5	303.9	352.3
90°	108.9	62.0	24.2	3.0	28.7	69.5	117.9	170.8	223.8	276.7	325.1
92.5°	89.2	46.9	13.6	1.5	18.1	55.9	101.3	151.2	202.6	254.0	300.9
95°	74.1	36.3	9.1	1.5	13.6	43.8	86.2	134.6	182.9	232.8	279.7
97.5°	63.5	30.2	7.6	1.5	10.6	37.8	74.1	119.4	166.3	213.2	258.5
100°	54.4	24.2	6.0	1.5	9.1	31.7	65.0	105.8	149.7	195.0	238.9
102.5°	46.9	19.7	4.5	1.5	7.6	27.2	57.5	95.2	134.6	178.4	220.7
105°	40.8	16.6	4.5	1.5	6.0	24.2	51.4	84.7	124.0	163.3	204.1
107.5°	34.8	13.6	3.0	1.5	4.5	19.7	45.4	77.1	111.9	149.7	187.5
110°	30.2	12.1	3.0	1.5	4.5	18.1	39.3	69.5	101.3	136.1	172.4



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L930-CD1-U

**CANDELA DISTRIBUTION (continued):**

	165°	170°	175°	180°	185°	190°	195°	200°	205°	210°	215°
112.5°	25.7	9.1	3.0	1.5	3.0	15.1	34.8	62.0	92.2	124.0	158.7
115°	22.7	7.6	1.5	1.5	3.0	13.6	31.7	55.9	83.2	113.4	145.1
117.5°	18.1	6.0	1.5	1.5	1.5	10.6	27.2	49.9	75.6	104.3	133.0
120°	15.1	6.0	1.5	1.5	1.5	9.1	24.2	43.8	68.0	93.7	121.0
122.5°	13.6	4.5	1.5	1.5	1.5	7.6	21.2	39.3	60.5	84.7	110.4
125°	12.1	4.5	1.5	1.5	1.5	6.0	18.1	34.8	54.4	75.6	99.8
127.5°	9.1	4.5	1.5	1.5	1.5	4.5	16.6	30.2	48.4	68.0	89.2
130°	7.6	3.0	1.5	1.5	1.5	4.5	13.6	27.2	42.3	60.5	80.1
132.5°	6.0	3.0	1.5	1.5	1.5	3.0	10.6	21.2	36.3	52.9	71.1
135°	6.0	3.0	1.5	1.5	1.5	3.0	7.6	18.1	30.2	45.4	60.5
137.5°	6.0	1.5	1.5	1.5	1.5	3.0	6.0	13.6	24.2	36.3	49.9
140°	4.5	1.5	1.5	1.5	1.5	1.5	4.5	10.6	19.7	30.2	42.3
142.5°	4.5	1.5	1.5	1.5	1.5	1.5	4.5	7.6	15.1	24.2	33.3
145°	3.0	1.5	1.5	1.5	1.5	1.5	3.0	6.0	12.1	18.1	27.2
147.5°	3.0	1.5	1.5	1.5	1.5	1.5	3.0	4.5	9.1	15.1	21.2
150°	3.0	1.5	1.5	1.5	1.5	1.5	3.0	4.5	6.0	10.6	16.6
152.5°	1.5	1.5	1.5	1.5	1.5	1.5	3.0	3.0	4.5	7.6	10.6
155°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3.0	4.5	6.0	7.6
157.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3.0	3.0	4.5	6.0
160°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3.0	3.0	4.5
162.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3.0	3.0
165°	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
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-L930-CD1-U

**CANDELA DISTRIBUTION (continued):**

	220°	225°	230°	235°	240°	245°	250°	255°	260°	265°	270°
0°	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3
2.5°	1437.8	1427.2	1430.2	1428.7	1431.8	1436.3	1436.3	1434.8	1434.8	1431.8	1428.7
5°	1434.8	1424.2	1428.7	1427.2	1430.2	1434.8	1434.8	1433.3	1433.3	1428.7	1427.2
7.5°	1425.7	1418.2	1421.2	1421.2	1424.2	1428.7	1428.7	1427.2	1427.2	1422.7	1421.2
10°	1416.6	1407.6	1412.1	1412.1	1415.1	1421.2	1421.2	1419.7	1419.7	1415.1	1413.6
12.5°	1401.5	1392.5	1400.0	1401.5	1404.5	1410.6	1409.1	1409.1	1409.1	1404.5	1403.0
15°	1383.4	1377.3	1384.9	1386.4	1390.9	1398.5	1398.5	1398.5	1398.5	1394.0	1392.5
17.5°	1363.7	1359.2	1366.7	1369.8	1375.8	1383.4	1383.4	1384.9	1386.4	1383.4	1381.9
20°	1341.0	1338.0	1345.6	1351.6	1360.7	1368.3	1371.3	1372.8	1375.8	1372.8	1371.3
22.5°	1315.3	1315.3	1325.9	1332.0	1342.6	1350.1	1354.7	1359.2	1362.2	1359.2	1357.7
25°	1286.6	1291.2	1301.7	1312.3	1324.4	1332.0	1336.5	1342.6	1345.6	1344.1	1342.6
27.5°	1259.4	1265.5	1279.1	1289.6	1300.2	1312.3	1316.9	1324.4	1327.4	1327.4	1325.9
30°	1227.7	1236.7	1251.8	1263.9	1277.5	1289.6	1295.7	1303.3	1307.8	1304.8	1306.3
32.5°	1197.4	1212.5	1224.6	1238.2	1253.4	1265.5	1273.0	1282.1	1286.6	1285.1	1286.6
35°	1164.2	1179.3	1195.9	1209.5	1227.7	1239.8	1250.3	1257.9	1263.9	1262.4	1262.4
37.5°	1127.9	1147.5	1164.2	1182.3	1198.9	1212.5	1223.1	1232.2	1238.2	1238.2	1238.2
40°	1093.1	1114.3	1130.9	1152.1	1173.2	1185.3	1197.4	1206.5	1212.5	1214.0	1215.6
42.5°	1055.3	1078.0	1097.6	1120.3	1141.5	1156.6	1170.2	1180.8	1186.8	1189.9	1188.3
45°	1020.5	1041.7	1064.4	1090.1	1109.7	1124.8	1141.5	1153.6	1159.6	1161.1	1162.6
47.5°	981.2	1005.4	1031.1	1056.8	1076.5	1096.1	1111.2	1123.3	1129.4	1133.9	1133.9
50°	943.4	969.1	997.8	1025.1	1046.2	1065.9	1081.0	1094.6	1102.2	1105.2	1106.7
52.5°	908.6	932.8	963.1	990.3	1011.5	1031.1	1050.8	1065.9	1073.4	1076.5	1076.5
55°	866.3	896.6	929.8	955.5	978.2	1000.9	1020.5	1035.6	1043.2	1047.7	1050.8
57.5°	827.0	858.8	893.5	920.7	948.0	969.1	987.3	1006.9	1013.0	1019.0	1020.5
60°	789.2	821.0	854.2	884.5	911.7	934.3	955.5	972.1	982.7	985.8	988.8
62.5°	749.9	783.2	817.9	848.2	876.9	904.1	923.8	938.9	951.0	955.5	958.5
65°	712.1	746.9	781.6	813.4	843.6	870.8	890.5	905.6	917.7	925.3	926.8
67.5°	671.3	709.1	745.4	778.6	808.9	837.6	857.2	872.4	884.5	893.5	895.0
70°	633.5	672.8	709.1	745.4	775.6	804.3	825.5	840.6	854.2	860.3	863.3
72.5°	597.2	638.0	675.8	712.1	742.3	771.1	793.7	808.9	822.5	830.0	831.5
75°	562.4	603.2	644.1	678.8	710.6	739.3	762.0	778.6	790.7	798.3	801.3
77.5°	527.6	570.0	610.8	645.6	678.8	707.6	727.2	746.9	759.0	768.0	768.0
80°	492.9	536.7	579.1	613.8	647.1	672.8	695.5	715.1	727.2	736.3	736.3
82.5°	462.6	505.0	545.8	580.6	613.8	642.6	665.2	683.4	697.0	703.0	704.5
85°	427.9	474.7	512.5	550.3	582.1	609.3	632.0	651.6	663.7	669.8	672.8
87.5°	399.1	444.5	485.3	518.6	550.3	577.5	603.2	619.9	632.0	639.5	642.6
90°	371.9	415.8	456.6	489.9	523.1	548.8	573.0	589.6	603.2	609.3	612.3
92.5°	347.7	391.6	430.9	464.2	495.9	524.6	547.3	563.9	576.0	582.1	586.6
95°	325.1	367.4	405.2	441.5	471.7	497.4	521.6	538.2	551.8	556.4	560.9
97.5°	302.4	343.2	381.0	415.8	447.5	471.7	494.4	511.0	521.6	529.2	533.7
100°	282.7	322.0	358.3	391.6	421.8	444.5	468.7	483.8	494.4	500.4	506.5
102.5°	261.6	300.9	335.6	367.4	399.1	420.3	443.0	458.1	467.2	477.8	477.8
105°	243.4	279.7	314.5	344.7	371.9	397.6	417.3	432.4	443.0	450.5	450.5
107.5°	223.8	260.0	293.3	325.1	350.8	374.9	393.1	406.7	418.8	423.3	427.9
110°	208.6	240.4	273.7	303.9	328.1	350.8	368.9	384.0	394.6	399.1	402.2



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L930-CD1-U

**CANDELA DISTRIBUTION (continued):**

	220°	225°	230°	235°	240°	245°	250°	255°	260°	265°	270°
112.5°	190.5	223.8	254.0	282.7	306.9	328.1	346.2	358.3	368.9	374.9	376.5
115°	175.4	207.1	234.3	261.6	287.3	305.4	322.0	334.1	344.7	349.2	352.3
117.5°	161.8	190.5	217.7	240.4	264.6	284.2	300.9	311.4	320.5	326.6	329.6
120°	148.2	175.4	199.6	222.2	244.9	263.1	278.2	288.8	299.4	303.9	303.9
122.5°	134.6	160.3	182.9	204.1	225.3	241.9	258.5	267.6	276.7	281.2	281.2
125°	122.5	146.7	167.8	187.5	207.1	222.2	235.9	246.4	255.5	258.5	258.5
127.5°	110.4	133.0	152.7	170.8	187.5	202.6	216.2	226.8	234.3	237.4	237.4
130°	99.8	119.4	137.6	155.7	172.4	184.5	198.1	207.1	211.7	216.2	217.7
132.5°	89.2	107.3	124.0	139.1	155.7	167.8	178.4	187.5	192.0	196.5	198.1
135°	78.6	95.2	110.4	125.5	139.1	151.2	160.3	167.8	173.9	176.9	178.4
137.5°	66.5	84.7	98.3	110.4	125.5	134.6	145.1	149.7	155.7	158.7	158.7
140°	55.9	69.5	84.7	96.8	108.9	117.9	127.0	134.6	139.1	140.6	140.6
142.5°	45.4	57.5	69.5	84.7	95.2	102.8	111.9	117.9	121.0	122.5	124.0
145°	36.3	45.4	55.9	69.5	81.6	90.7	95.2	101.3	104.3	105.8	107.3
147.5°	27.2	36.3	45.4	54.4	66.5	75.6	80.1	86.2	89.2	90.7	90.7
150°	21.2	27.2	33.3	42.3	51.4	62.0	68.0	72.6	74.1	75.6	75.6
152.5°	15.1	21.2	25.7	31.7	37.8	46.9	55.9	59.0	60.5	62.0	62.0
155°	10.6	15.1	18.1	22.7	27.2	34.8	42.3	46.9	48.4	49.9	49.9
157.5°	7.6	10.6	12.1	16.6	19.7	22.7	28.7	36.3	37.8	37.8	37.8
160°	4.5	6.0	7.6	10.6	12.1	15.1	18.1	22.7	27.2	27.2	27.2
162.5°	3.0	4.5	4.5	6.0	6.0	9.1	10.6	12.1	16.6	18.1	18.1
165°	1.5	3.0	3.0	3.0	3.0	3.0	4.5	4.5	7.6	9.1	9.1
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-L930-CD1-U

**CANDELA DISTRIBUTION (continued):**

	275°	280°	285°	290°	295°	300°	305°	310°	315°	320°	325°
0°	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3
2.5°	1430.2	1433.3	1431.8	1431.8	1431.8	1434.8	1431.8	1418.2	1421.2	1424.2	1427.2
5°	1428.7	1430.2	1430.2	1428.7	1428.7	1431.8	1428.7	1415.1	1418.2	1421.2	1422.7
7.5°	1422.7	1424.2	1424.2	1424.2	1422.7	1425.7	1421.2	1409.1	1409.1	1412.1	1413.6
10°	1415.1	1418.2	1416.6	1415.1	1415.1	1415.1	1412.1	1398.5	1398.5	1400.0	1401.5
12.5°	1406.1	1406.1	1406.1	1404.5	1403.0	1403.0	1400.0	1386.4	1384.9	1387.9	1386.4
15°	1394.0	1397.0	1394.0	1392.5	1389.4	1389.4	1384.9	1371.3	1368.3	1369.8	1368.3
17.5°	1383.4	1384.9	1381.9	1378.8	1375.8	1374.3	1369.8	1354.7	1350.1	1351.6	1348.6
20°	1372.8	1372.8	1369.8	1366.7	1362.2	1357.7	1351.6	1336.5	1329.0	1329.0	1322.9
22.5°	1359.2	1359.2	1356.2	1351.6	1347.1	1341.0	1335.0	1319.9	1307.8	1304.8	1300.2
25°	1344.1	1342.6	1341.0	1336.5	1327.4	1321.4	1315.3	1298.7	1285.1	1279.1	1271.5
27.5°	1325.9	1325.9	1321.4	1316.9	1307.8	1300.2	1292.7	1277.5	1259.4	1251.8	1241.3
30°	1306.3	1306.3	1301.7	1295.7	1286.6	1277.5	1268.5	1250.3	1232.2	1221.6	1209.5
32.5°	1286.6	1285.1	1280.6	1274.5	1265.5	1251.8	1244.3	1226.1	1205.0	1192.9	1176.3
35°	1262.4	1260.9	1256.4	1248.8	1236.7	1226.1	1214.0	1197.4	1173.2	1158.1	1140.0
37.5°	1238.2	1236.7	1233.7	1223.1	1211.0	1198.9	1183.8	1167.2	1144.5	1124.8	1106.7
40°	1214.0	1212.5	1206.5	1198.9	1183.8	1168.7	1153.6	1136.9	1112.8	1090.1	1070.4
42.5°	1188.3	1186.8	1179.3	1170.2	1153.6	1138.5	1120.3	1102.2	1078.0	1050.8	1031.1
45°	1162.6	1159.6	1152.1	1141.5	1123.3	1106.7	1088.6	1067.4	1043.2	1017.5	991.8
47.5°	1135.4	1130.9	1123.3	1108.2	1093.1	1075.0	1053.8	1031.1	1006.9	978.2	951.0
50°	1105.2	1102.2	1093.1	1079.5	1061.3	1043.2	1019.0	996.3	967.6	940.4	907.1
52.5°	1076.5	1070.4	1062.9	1047.7	1029.6	1009.9	984.2	957.0	928.3	902.6	867.8
55°	1046.2	1043.2	1032.6	1020.5	997.8	975.2	951.0	922.3	890.5	860.3	827.0
57.5°	1017.5	1011.5	1002.4	985.8	966.1	943.4	917.7	887.5	852.7	821.0	784.7
60°	988.8	979.7	969.1	954.0	932.8	908.6	881.4	849.7	814.9	780.1	742.3
62.5°	957.0	949.5	937.4	922.3	901.1	875.4	846.7	813.4	780.1	743.9	703.0
65°	925.3	917.7	905.6	890.5	869.3	840.6	810.4	777.1	739.3	704.5	660.7
67.5°	893.5	886.0	872.4	855.7	834.6	807.3	775.6	740.8	703.0	665.2	619.9
70°	861.8	852.7	840.6	822.5	801.3	772.6	740.8	704.5	666.7	625.9	580.6
72.5°	830.0	822.5	807.3	790.7	768.0	739.3	707.6	671.3	632.0	589.6	544.3
75°	798.3	789.2	778.6	759.0	734.8	707.6	674.3	638.0	595.7	554.9	508.0
77.5°	766.5	759.0	745.4	725.7	703.0	674.3	641.0	604.8	562.4	520.1	470.2
80°	734.8	725.7	715.1	697.0	671.3	642.6	607.8	571.5	529.2	485.3	435.4
82.5°	703.0	694.0	681.9	663.7	639.5	610.8	577.5	538.2	495.9	450.5	403.7
85°	671.3	663.7	650.1	632.0	606.3	577.5	544.3	509.5	464.2	418.8	371.9
87.5°	639.5	632.0	618.4	600.2	576.0	547.3	514.0	477.8	433.9	391.6	340.2
90°	609.3	603.2	589.6	571.5	547.3	518.6	488.3	449.0	406.7	364.4	316.0
92.5°	582.1	576.0	563.9	545.8	524.6	492.9	462.6	424.8	382.5	338.7	291.8
95°	557.9	550.3	538.2	521.6	495.9	468.7	438.4	400.7	359.8	316.0	270.6
97.5°	530.7	523.1	511.0	492.9	471.7	443.0	412.7	376.5	335.6	294.8	249.5
100°	503.5	495.9	482.3	467.2	446.0	417.3	388.6	352.3	314.5	275.2	231.3
102.5°	476.2	468.7	456.6	441.5	420.3	394.6	365.9	331.1	293.3	254.0	213.2
105°	450.5	443.0	430.9	415.8	396.1	370.4	340.2	309.9	273.7	235.9	196.5
107.5°	424.8	417.3	406.7	391.6	371.9	347.7	319.0	287.3	254.0	217.7	179.9
110°	399.1	393.1	381.0	367.4	347.7	323.5	297.8	267.6	234.3	201.1	164.8





TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L930-CD1-U

**CANDELA DISTRIBUTION (continued):**

	275°	280°	285°	290°	295°	300°	305°	310°	315°	320°	325°
112.5°	374.9	368.9	356.8	341.7	325.1	302.4	276.7	248.0	216.2	184.5	149.7
115°	350.8	343.2	332.6	319.0	302.4	281.2	257.0	231.3	199.6	169.3	137.6
117.5°	326.6	320.5	309.9	296.3	281.2	260.0	237.4	213.2	182.9	154.2	125.5
120°	302.4	297.8	287.3	275.2	260.0	240.4	219.2	195.0	167.8	140.6	113.4
122.5°	279.7	275.2	264.6	254.0	238.9	220.7	201.1	178.4	154.2	128.5	104.3
125°	258.5	252.5	243.4	232.8	219.2	202.6	182.9	161.8	139.1	116.4	93.7
127.5°	235.9	231.3	225.3	213.2	199.6	184.5	166.3	148.2	127.0	105.8	84.7
130°	217.7	211.7	204.1	195.0	182.9	167.8	151.2	133.0	114.9	95.2	74.1
132.5°	196.5	190.5	184.5	175.4	164.8	151.2	136.1	119.4	102.8	84.7	66.5
135°	176.9	172.4	166.3	157.2	146.7	136.1	121.0	105.8	90.7	74.1	59.0
137.5°	158.7	154.2	148.2	142.1	131.5	121.0	107.3	93.7	80.1	65.0	51.4
140°	140.6	137.6	131.5	125.5	116.4	105.8	93.7	81.6	69.5	55.9	43.8
142.5°	122.5	119.4	114.9	108.9	101.3	92.2	81.6	71.1	59.0	48.4	37.8
145°	105.8	104.3	99.8	93.7	87.7	78.6	69.5	60.5	49.9	40.8	30.2
147.5°	89.2	87.7	84.7	80.1	74.1	66.5	59.0	49.9	42.3	33.3	24.2
150°	74.1	72.6	71.1	65.0	62.0	54.4	48.4	40.8	34.8	25.7	19.7
152.5°	60.5	60.5	57.5	52.9	49.9	43.8	39.3	33.3	27.2	21.2	15.1
155°	48.4	46.9	45.4	42.3	39.3	34.8	30.2	25.7	21.2	15.1	10.6
157.5°	37.8	36.3	34.8	31.7	28.7	27.2	22.7	18.1	13.6	10.6	7.6
160°	27.2	25.7	24.2	22.7	21.2	18.1	15.1	12.1	9.1	6.0	4.5
162.5°	18.1	16.6	16.6	15.1	13.6	10.6	9.1	7.6	6.0	4.5	3.0
165°	9.1	9.1	7.6	7.6	6.0	4.5	4.5	4.5	3.0	3.0	1.5
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-L930-CD1-U

**CANDELA DISTRIBUTION (continued):**

	330°	335°	340°	345°	350°	355°	360°
0°	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3	1433.3
2.5°	1425.7	1425.7	1431.8	1430.2	1425.7	1434.8	1445.4
5°	1421.2	1421.2	1425.7	1425.7	1421.2	1430.2	1439.3
7.5°	1413.6	1412.1	1416.6	1416.6	1410.6	1418.2	1428.7
10°	1400.0	1398.5	1403.0	1403.0	1397.0	1404.5	1413.6
12.5°	1384.9	1381.9	1386.4	1384.9	1378.8	1386.4	1395.5
15°	1365.2	1363.7	1366.7	1363.7	1357.7	1365.2	1374.3
17.5°	1345.6	1341.0	1342.6	1342.6	1332.0	1339.5	1347.1
20°	1319.9	1313.8	1315.3	1313.8	1306.3	1310.8	1319.9
22.5°	1294.2	1285.1	1285.1	1283.6	1274.5	1280.6	1288.1
25°	1262.4	1251.8	1251.8	1250.3	1239.8	1244.3	1251.8
27.5°	1230.7	1220.1	1215.6	1214.0	1203.5	1203.5	1214.0
30°	1197.4	1182.3	1179.3	1174.7	1164.2	1164.2	1173.2
32.5°	1165.7	1144.5	1138.5	1132.4	1121.8	1120.3	1130.9
35°	1123.3	1106.7	1096.1	1090.1	1078.0	1075.0	1084.0
37.5°	1088.6	1067.4	1052.3	1044.7	1032.6	1028.1	1040.2
40°	1050.8	1028.1	1008.4	1003.9	985.8	979.7	990.3
42.5°	1008.4	984.2	964.6	955.5	941.9	935.9	937.4
45°	966.1	940.4	919.2	907.1	893.5	882.9	889.0
47.5°	922.3	899.6	873.9	855.7	839.1	831.5	834.6
50°	878.4	851.2	827.0	807.3	787.7	778.6	784.7
52.5°	834.6	805.8	778.6	757.5	734.8	725.7	727.2
55°	792.2	762.0	730.2	707.6	686.4	672.8	669.8
57.5°	749.9	716.6	683.4	657.7	630.5	618.4	613.8
60°	704.5	669.8	635.0	604.8	576.0	562.4	556.4
62.5°	662.2	624.4	585.1	553.4	524.6	506.5	501.9
65°	621.4	577.5	538.2	501.9	470.2	450.5	444.5
67.5°	577.5	532.2	489.9	450.5	420.3	394.6	391.6
70°	536.7	488.3	441.5	400.7	367.4	341.7	329.6
72.5°	495.9	446.0	397.6	353.8	311.4	287.3	278.2
75°	456.6	405.2	353.8	308.4	261.6	232.8	223.8
77.5°	420.3	367.4	313.0	263.1	219.2	182.9	170.8
80°	385.5	331.1	273.7	222.2	175.4	136.1	122.5
82.5°	349.2	297.8	238.9	184.5	136.1	95.2	78.6
85°	317.5	266.1	207.1	152.7	104.3	60.5	42.3
87.5°	291.8	235.9	182.9	128.5	78.6	34.8	12.1
90°	266.1	211.7	158.7	105.8	59.0	19.7	1.5
92.5°	243.4	192.0	139.1	90.7	45.4	13.6	1.5
95°	222.2	172.4	122.5	75.6	36.3	9.1	1.5
97.5°	202.6	155.7	108.9	65.0	30.2	7.6	1.5
100°	186.0	140.6	96.8	57.5	25.7	6.0	1.5
102.5°	169.3	127.0	86.2	49.9	22.7	4.5	1.5
105°	155.7	114.9	77.1	45.4	19.7	4.5	1.5
107.5°	142.1	104.3	69.5	39.3	16.6	3.0	1.5
110°	128.5	95.2	62.0	34.8	15.1	3.0	1.5



TEST NUMBER: P#

CATALOG NUMBER: 4SNLED-LD5-78HL-LW-UNV-L930-CD1-U

**CANDELA DISTRIBUTION (continued):**

	330°	335°	340°	345°	350°	355°	360°
112.5°	117.9	86.2	55.9	31.7	12.1	3.0	1.5
115°	107.3	77.1	49.9	27.2	10.6	1.5	1.5
117.5°	96.8	69.5	43.8	24.2	9.1	1.5	1.5
120°	87.7	62.0	39.3	21.2	7.6	1.5	1.5
122.5°	78.6	55.9	34.8	18.1	6.0	1.5	1.5
125°	71.1	49.9	30.2	15.1	4.5	1.5	1.5
127.5°	63.5	43.8	27.2	13.6	4.5	1.5	1.5
130°	55.9	39.3	22.7	10.6	3.0	1.5	1.5
132.5°	49.9	33.3	19.7	9.1	3.0	1.5	1.5
135°	43.8	28.7	16.6	6.0	3.0	1.5	1.5
137.5°	37.8	24.2	13.6	4.5	1.5	1.5	1.5
140°	31.7	21.2	10.6	4.5	1.5	1.5	1.5
142.5°	27.2	16.6	7.6	3.0	1.5	1.5	1.5
145°	21.2	13.6	6.0	3.0	1.5	1.5	1.5
147.5°	16.6	10.6	4.5	3.0	1.5	1.5	1.5
150°	12.1	7.6	4.5	1.5	1.5	1.5	1.5
152.5°	9.1	6.0	3.0	1.5	1.5	1.5	1.5
155°	6.0	4.5	3.0	1.5	1.5	1.5	1.5
157.5°	4.5	3.0	1.5	1.5	1.5	1.5	1.5
160°	3.0	1.5	1.5	1.5	1.5	1.5	1.5
162.5°	1.5	1.5	1.5	1.5	1.5	1.5	1.5
165°	1.5	1.5	1.5	1.5	1.5	1.5	1.5
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)