

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: METALUX

Report Number: P1213111

Luminaire Tested: 4SNLED-LD5-54HL-LN-UNV-L930-CD1-U

Issue Date: 3/29/2018

Test Information

Test Method: LM-79-2019
Report Number: P1213111
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33519)
Test Lab: INNOVATIONS CENTER-P3
Issue Date: 3/29/2018
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: METALUX
Catalog Number: 4SNLED-LD5-54HL-LN-UNV-L930-CD1-U
Description: 4FT LINEAR SNLED LED FIXTURE
NARROW LENS
Light Source: -
Ballast/Driver: -

Summary

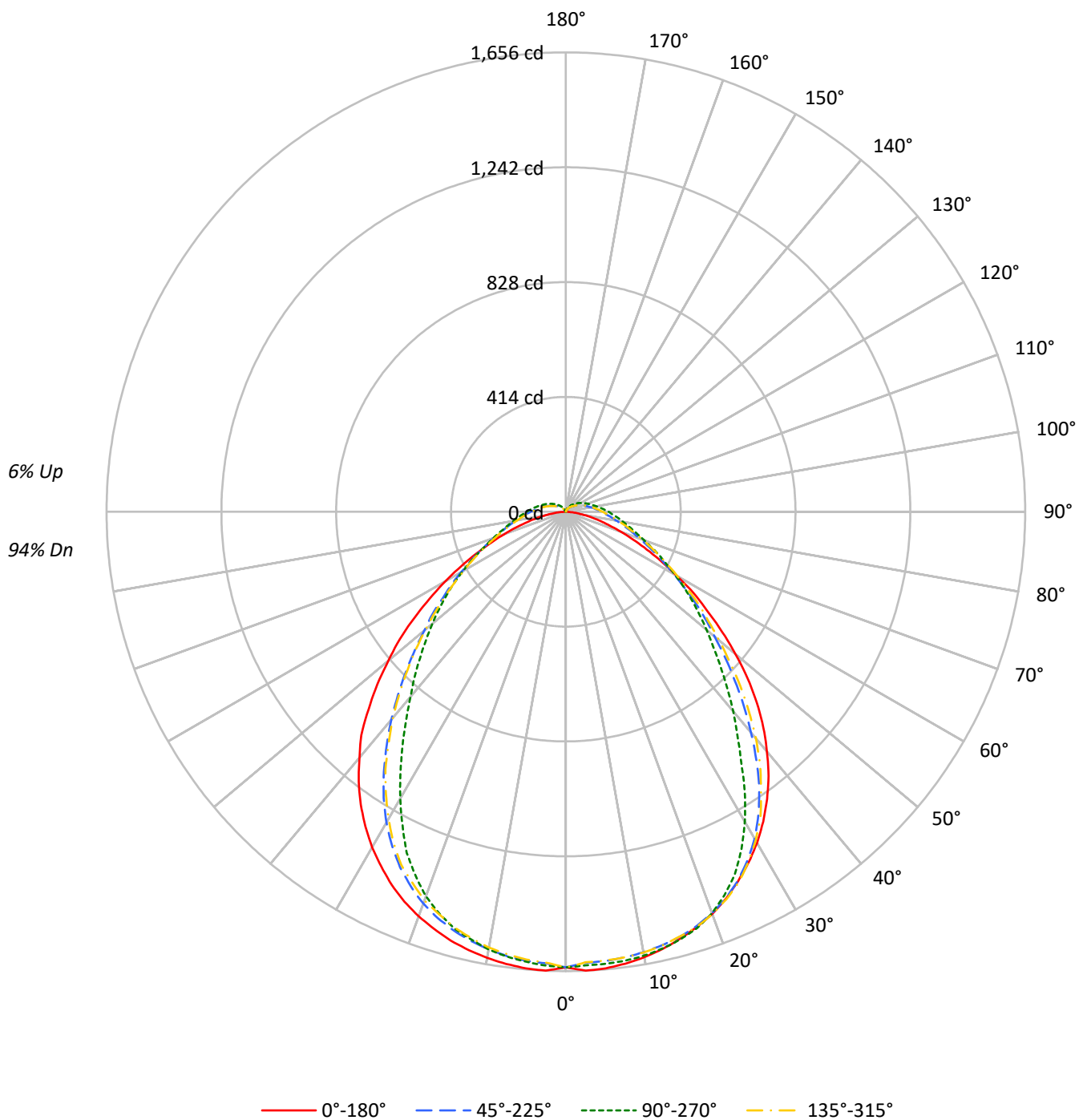
Lumens per Lamp: N/A
Luminaire Lumens: 4156.0 lumens
Efficiency: N/A
Efficacy: 106.6 lumens/watt
Spacing Criteria (0/90/45): 1.25 / 1.14 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.12')
CIE Type: Direct

Input Watts (W): 39
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: 24 FT

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Luminous Intensity Polar Plot



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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20
RC	80				70				50				30				10
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	118	118	118	118	114	114	114	114	108	108	108	102	102	102	96	96	96
1	107	103	98	95	104	100	96	92	94	91	88	89	87	85	85	83	81
2	98	90	84	78	95	88	82	77	83	78	74	79	75	72	75	72	69
3	90	80	72	66	87	78	71	65	74	68	63	71	66	61	67	63	60
4	83	72	63	57	80	70	62	56	67	60	55	64	58	53	61	56	52
5	77	64	56	50	74	63	55	49	60	53	48	58	52	47	55	50	46
6	71	58	50	44	69	57	49	43	55	48	42	52	46	42	50	45	41
7	66	53	45	39	64	52	44	39	50	43	38	48	42	37	46	41	37
8	62	49	41	35	60	48	40	35	46	39	34	44	38	34	43	37	33
9	58	45	37	32	56	44	37	31	42	36	31	41	35	30	40	34	30
10	54	42	34	29	53	41	34	29	39	33	28	38	32	28	37	31	27

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	13271	13271	13271	13271
5°	13365	12848	13365	12792
10°	13306	12506	13328	12333
15°	13220	12133	13280	11817
20°	13118	11652	13196	11161
25°	12908	10940	13051	10296
30°	12634	9892	12800	9158
35°	12208	8609	12444	8017
40°	11597	7529	11904	6986
45°	10792	6545	11142	6170
50°	9689	5751	10117	5461
55°	8382	5078	8990	4822
60°	7050	4459	7686	4203
65°	5779	3943	6362	3656
70°	4600	3499	5150	3236
75°	3613	3230	4066	2972
80°	2605	3117	3072	2848
85°	1605	3135	2159	2881

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 180°

Vertical Angle: 45°

Luminance: 11142 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.7	3.7
10°-20°	446.4	10.7
20°-30°	661.6	15.9
30°-40°	735.1	17.7
40°-50°	666.3	16.0
50°-60°	516.3	12.4
60°-70°	350.6	8.4
70°-80°	223.1	5.4
80°-90°	142.6	3.4
90°-100°	96.1	2.3
100°-110°	65.9	1.6
110°-120°	43.9	1.1
120°-130°	27.3	0.7
130°-140°	15.1	0.4
140°-150°	7.1	0.2
150°-160°	2.6	0.1
160°-170°	0.2	0.0
170°-180°	0.0	0.0
0°-30°	1263.8	30.4
0°-40°	1998.8	48.1
0°-60°	3181.5	76.6
0°-90°	3897.8	93.8
90°-120°	205.9	5.0
90°-150°	255.5	6.1
90°-180°	258.0	6.2
0°-180°	4156.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1642	1642	1642	1642	1642	
5°	1652	1636	1652	1629	1652	157
15°	1593	1596	1601	1555	1593	450
25°	1469	1442	1485	1357	1469	676
35°	1265	1102	1289	1026	1265	789
45°	974	788	1005	742	974	748
55°	622	554	667	526	622	560
65°	322	372	355	345	322	323
75°	129	248	145	228	129	139
85°	24	179	32	164	24	28
90°	0	154	2	141	0	1
95°	1	132	0	123	1	1
105°	1	97	0	91	1	1
115°	1	73	0	68	1	1
125°	1	54	1	48	1	1
135°	1	38	1	31	1	1
145°	1	24	1	17	1	1
155°	1	14	1	6	1	1
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2
2.5°	1655.8	1654.0	1652.1	1649.4	1652.1	1659.4	1654.9	1644.9	1643.1	1626.9	1634.1
5°	1652.1	1649.4	1647.6	1644.9	1648.5	1657.6	1653.0	1644.0	1641.3	1625.9	1634.1
7.5°	1643.1	1641.3	1638.6	1638.6	1642.2	1651.2	1647.6	1637.7	1635.9	1620.5	1629.6
10°	1630.5	1629.6	1627.8	1627.8	1631.4	1642.2	1637.7	1628.7	1626.9	1612.4	1622.3
12.5°	1614.2	1615.1	1612.4	1612.4	1617.8	1628.7	1625.0	1615.1	1613.3	1600.7	1610.6
15°	1593.4	1594.3	1592.5	1593.4	1598.9	1611.5	1607.0	1597.9	1596.1	1586.2	1594.3
17.5°	1569.9	1570.8	1570.8	1569.9	1576.3	1588.9	1585.3	1577.2	1574.5	1566.3	1576.3
20°	1542.8	1542.8	1542.8	1542.8	1550.1	1562.7	1558.2	1551.9	1546.5	1540.1	1548.3
22.5°	1509.4	1508.5	1509.4	1512.1	1519.4	1529.3	1526.6	1519.4	1511.2	1507.6	1513.9
25°	1468.8	1471.5	1472.4	1475.1	1484.1	1492.3	1489.6	1482.3	1469.7	1467.0	1468.8
27.5°	1426.3	1428.1	1430.8	1429.9	1442.6	1450.7	1445.3	1439.0	1420.9	1418.2	1416.4
30°	1378.4	1381.2	1383.0	1382.1	1392.0	1401.0	1395.6	1387.5	1363.1	1361.3	1346.8
32.5°	1324.2	1327.0	1328.8	1328.8	1343.2	1346.8	1336.9	1325.1	1299.0	1292.6	1280.0
35°	1264.6	1267.3	1268.2	1268.2	1282.7	1281.8	1269.1	1252.9	1224.0	1215.8	1194.2
37.5°	1200.5	1202.3	1203.2	1208.6	1214.9	1209.5	1193.3	1172.5	1150.8	1128.2	1104.7
40°	1128.2	1130.9	1132.7	1136.4	1142.7	1136.4	1112.9	1087.6	1064.1	1038.8	1015.3
42.5°	1054.2	1062.3	1060.5	1059.6	1063.2	1046.0	1028.0	999.1	975.6	949.4	925.9
45°	973.8	972.9	977.4	979.2	978.3	963.8	938.5	912.3	888.9	861.8	841.9
47.5°	888.9	887.9	891.6	893.4	887.9	872.6	852.7	822.9	803.0	779.6	764.2
50°	799.4	799.4	804.8	799.4	796.7	781.4	765.1	735.3	719.9	699.2	690.1
52.5°	710.0	718.1	712.7	710.9	708.2	692.8	680.2	655.8	643.2	634.1	623.3
55°	621.5	630.5	626.9	624.2	623.3	610.6	598.9	580.8	572.7	566.4	560.0
57.5°	546.5	545.6	543.8	541.1	542.0	532.0	520.3	510.4	506.8	504.0	505.9
60°	459.8	467.0	464.3	465.2	466.1	464.3	454.4	448.0	448.9	449.8	452.6
62.5°	388.4	394.7	399.3	395.6	397.5	400.2	394.7	392.9	396.6	400.2	403.8
65°	322.5	328.8	333.3	332.4	337.8	343.3	342.4	344.2	352.3	356.8	361.3
67.5°	262.9	269.2	275.5	276.4	284.5	292.7	296.3	302.6	311.6	318.0	323.4
70°	211.4	216.8	224.0	228.5	239.4	250.2	256.5	269.2	274.6	283.6	287.3
72.5°	165.3	169.8	179.8	190.6	199.6	213.2	225.8	236.7	244.8	254.7	259.2
75°	129.2	131.0	141.8	154.5	167.1	182.5	196.0	207.8	218.6	228.5	235.8
77.5°	94.8	97.6	107.5	124.7	139.1	155.4	170.7	183.4	195.1	205.1	215.0
80°	65.9	71.4	82.2	99.4	115.6	133.7	148.1	162.6	175.2	185.2	195.1
82.5°	42.5	47.0	62.3	79.5	96.7	114.7	130.1	144.5	158.1	168.9	178.0
85°	23.5	29.8	45.2	63.2	80.4	98.5	114.7	129.2	142.7	152.7	161.7
87.5°	9.0	18.1	32.5	49.7	66.8	84.0	101.2	114.7	128.3	139.1	147.2
90°	0.0	10.8	24.4	41.6	58.7	75.9	92.1	106.6	119.2	129.2	138.2
92.5°	0.9	7.2	19.0	33.4	49.7	65.9	81.3	95.8	108.4	118.3	126.5
95°	0.9	5.4	15.4	28.9	43.4	58.7	73.2	86.7	98.5	108.4	116.5
97.5°	0.9	3.6	12.6	25.3	37.9	53.3	66.8	79.5	90.3	100.3	106.6
100°	0.9	3.6	10.8	21.7	34.3	47.9	60.5	73.2	83.1	91.2	98.5
102.5°	0.9	2.7	9.0	19.0	30.7	42.5	55.1	66.8	75.9	84.0	91.2
105°	0.9	2.7	8.1	16.3	27.1	38.8	49.7	60.5	70.5	77.7	84.0
107.5°	0.9	1.8	7.2	13.5	23.5	35.2	46.1	55.1	64.1	71.4	77.7
110°	0.9	1.8	6.3	12.6	20.8	31.6	41.6	50.6	58.7	65.9	71.4

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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	0.9	1.8	5.4	11.7	19.0	28.0	37.9	46.1	54.2	60.5	65.9
115°	0.9	1.8	5.4	10.8	17.2	24.4	33.4	42.5	48.8	56.0	60.5
117.5°	0.9	1.8	4.5	9.0	16.3	22.6	30.7	37.9	45.2	51.5	56.0
120°	0.9	1.8	4.5	8.1	14.5	20.8	27.1	34.3	41.6	46.1	50.6
122.5°	0.9	1.8	3.6	8.1	12.6	19.0	24.4	30.7	37.0	42.5	47.0
125°	0.9	1.8	3.6	7.2	11.7	17.2	22.6	27.1	33.4	37.9	42.5
127.5°	0.9	1.8	3.6	6.3	10.8	15.4	20.8	25.3	29.8	34.3	37.9
130°	0.9	1.8	2.7	5.4	9.9	13.5	18.1	23.5	27.1	30.7	34.3
132.5°	0.9	1.8	2.7	5.4	8.1	11.7	16.3	20.8	24.4	28.0	30.7
135°	0.9	1.8	2.7	4.5	7.2	10.8	13.5	18.1	21.7	25.3	28.0
137.5°	0.9	1.8	2.7	4.5	6.3	9.0	11.7	15.4	19.0	21.7	25.3
140°	0.9	1.8	2.7	3.6	5.4	8.1	10.8	12.6	16.3	19.0	21.7
142.5°	0.9	1.8	2.7	3.6	5.4	7.2	9.0	10.8	13.5	16.3	19.0
145°	0.9	1.8	2.7	3.6	4.5	6.3	8.1	9.9	10.8	13.5	15.4
147.5°	0.9	1.8	2.7	3.6	3.6	5.4	7.2	8.1	9.9	10.8	12.6
150°	0.9	1.8	2.7	2.7	3.6	4.5	6.3	7.2	8.1	9.9	10.8
152.5°	0.9	1.8	2.7	2.7	3.6	4.5	5.4	6.3	7.2	8.1	9.0
155°	0.9	1.8	2.7	2.7	2.7	3.6	4.5	5.4	6.3	7.2	8.1
157.5°	1.8	1.8	1.8	2.7	2.7	3.6	3.6	4.5	5.4	5.4	6.3
160°	1.8	1.8	1.8	2.7	2.7	2.7	3.6	3.6	4.5	4.5	5.4
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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°	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2
2.5°	1632.3	1635.0	1643.1	1643.1	1641.3	1639.5	1639.5	1636.8	1638.6	1642.2	1640.4
5°	1632.3	1635.0	1643.1	1643.1	1641.3	1639.5	1638.6	1635.9	1638.6	1642.2	1640.4
7.5°	1626.9	1630.5	1638.6	1638.6	1636.8	1635.9	1634.1	1632.3	1635.0	1638.6	1636.8
10°	1619.6	1623.2	1631.4	1631.4	1629.6	1629.6	1626.9	1625.0	1628.7	1631.4	1630.5
12.5°	1608.8	1613.3	1620.5	1619.6	1617.8	1618.7	1616.0	1612.4	1616.0	1618.7	1619.6
15°	1593.4	1598.9	1606.1	1604.3	1601.6	1603.4	1598.9	1596.1	1598.9	1604.3	1603.4
17.5°	1573.6	1577.2	1582.6	1582.6	1579.9	1578.1	1576.3	1573.6	1575.4	1579.0	1579.9
20°	1545.6	1550.1	1552.8	1550.1	1549.2	1546.5	1542.8	1540.1	1543.7	1549.2	1550.1
22.5°	1508.5	1509.4	1515.7	1509.4	1504.9	1504.0	1500.4	1495.0	1500.4	1504.9	1505.8
25°	1462.5	1467.0	1464.3	1453.4	1453.4	1446.2	1444.4	1441.7	1442.6	1450.7	1454.3
27.5°	1403.7	1405.5	1398.3	1389.3	1381.2	1376.6	1370.3	1371.2	1371.2	1382.1	1385.7
30°	1339.6	1329.7	1323.3	1308.9	1302.6	1291.7	1289.9	1289.9	1288.1	1293.5	1309.8
32.5°	1262.8	1249.3	1239.3	1225.8	1214.9	1204.1	1198.7	1201.4	1200.5	1214.0	1219.5
35°	1178.8	1170.7	1149.9	1132.7	1126.4	1110.2	1110.2	1102.0	1107.5	1122.8	1129.1
37.5°	1090.3	1077.6	1060.5	1041.5	1037.0	1024.3	1019.8	1015.3	1027.1	1029.8	1036.1
40°	1000.0	988.2	972.0	953.9	953.9	938.5	938.5	938.5	939.4	944.9	956.6
42.5°	914.1	901.5	887.0	874.4	872.6	860.9	860.9	859.9	861.8	866.3	877.1
45°	831.0	821.1	805.7	799.4	800.3	787.7	790.4	787.7	791.3	795.8	799.4
47.5°	754.3	747.9	741.6	732.6	729.9	729.0	724.5	720.8	727.2	727.2	732.6
50°	682.9	679.3	675.7	670.3	671.2	667.5	662.1	662.1	666.6	667.5	671.2
52.5°	620.6	616.1	611.5	612.4	613.3	611.5	608.8	606.1	608.8	610.6	615.2
55°	558.2	554.6	559.1	557.3	559.1	557.3	555.5	553.7	558.2	555.5	560.0
57.5°	502.2	505.9	507.7	504.0	506.8	504.9	505.9	503.1	506.8	508.6	507.7
60°	450.7	456.2	453.5	454.4	458.0	456.2	452.6	455.3	458.9	459.8	458.9
62.5°	403.8	410.1	412.8	411.0	411.9	410.1	412.8	409.2	413.7	415.5	412.8
65°	361.3	368.5	370.4	370.4	370.4	368.5	371.3	372.2	374.0	374.0	372.2
67.5°	325.2	331.5	333.3	335.1	333.3	331.5	331.5	332.4	336.0	337.8	336.0
70°	292.7	299.0	299.9	299.9	300.8	302.6	299.0	300.8	303.5	304.4	303.5
72.5°	264.7	271.0	272.8	271.9	272.8	273.7	273.7	271.9	274.6	276.4	276.4
75°	242.1	245.7	247.5	247.5	248.4	249.3	249.3	248.4	250.2	251.1	252.0
77.5°	221.3	224.0	226.7	226.7	227.6	226.7	228.5	228.5	229.4	230.3	231.2
80°	200.5	204.1	206.0	206.9	208.7	209.6	209.6	209.6	210.5	211.4	211.4
82.5°	184.3	187.0	189.7	192.4	192.4	193.3	193.3	193.3	194.2	194.2	195.1
85°	168.0	171.6	174.3	176.1	177.0	178.0	178.0	178.9	178.9	178.9	179.8
87.5°	153.6	158.1	159.9	161.7	162.6	164.4	164.4	164.4	165.3	165.3	165.3
90°	143.6	148.1	149.9	151.8	152.7	153.6	153.6	154.5	154.5	155.4	155.4
92.5°	131.9	136.4	140.0	140.0	140.9	142.7	141.8	141.8	142.7	143.6	143.6
95°	122.8	126.5	129.2	130.1	131.0	131.0	131.0	131.9	131.0	131.9	131.9
97.5°	112.0	115.6	118.3	120.1	121.0	121.0	121.0	121.9	121.0	121.9	121.9
100°	103.0	106.6	109.3	110.2	112.0	112.0	112.0	112.0	112.0	112.0	112.9
102.5°	95.8	99.4	101.2	102.1	103.0	103.9	103.9	103.9	103.9	104.8	104.8
105°	88.5	92.1	93.9	94.8	95.8	96.7	96.7	96.7	97.6	97.6	96.7
107.5°	82.2	84.9	86.7	88.5	89.4	89.4	90.3	90.3	90.3	90.3	90.3
110°	75.9	78.6	81.3	83.1	83.1	84.0	84.0	84.9	84.9	84.0	84.9

TEST NUMBER: P1213111

CATALOG NUMBER: 4SNLED-LD5-54HL-LN-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	69.6	73.2	75.0	76.8	77.7	78.6	78.6	78.6	78.6	78.6	78.6
115°	64.1	67.7	69.6	71.4	72.3	73.2	73.2	73.2	73.2	73.2	73.2
117.5°	59.6	63.2	65.0	65.9	66.8	67.7	68.7	68.7	68.7	68.7	67.7
120°	55.1	57.8	59.6	61.4	62.3	63.2	63.2	63.2	63.2	63.2	63.2
122.5°	50.6	53.3	55.1	56.9	57.8	58.7	58.7	58.7	58.7	58.7	58.7
125°	46.1	48.8	50.6	52.4	53.3	54.2	54.2	54.2	54.2	54.2	54.2
127.5°	41.6	44.3	47.0	47.9	48.8	49.7	49.7	49.7	50.6	49.7	49.7
130°	37.0	39.7	42.5	43.4	44.3	45.2	46.1	46.1	46.1	46.1	45.2
132.5°	33.4	36.1	37.9	38.8	40.6	40.6	41.6	41.6	41.6	41.6	40.6
135°	30.7	32.5	34.3	35.2	37.0	37.0	37.0	37.9	37.9	37.0	36.1
137.5°	27.1	28.9	30.7	31.6	32.5	33.4	33.4	34.3	33.4	33.4	33.4
140°	25.3	26.2	28.0	28.9	29.8	29.8	29.8	30.7	30.7	29.8	29.8
142.5°	21.7	23.5	25.3	26.2	27.1	27.1	27.1	27.1	27.1	27.1	27.1
145°	18.1	20.8	21.7	23.5	23.5	24.4	24.4	24.4	24.4	24.4	23.5
147.5°	15.4	17.2	19.9	20.8	20.8	21.7	21.7	21.7	21.7	21.7	20.8
150°	11.7	13.5	16.3	18.1	18.1	19.0	19.0	19.0	19.0	18.1	18.1
152.5°	9.9	11.7	12.6	14.5	15.4	15.4	15.4	16.3	15.4	15.4	15.4
155°	9.0	9.9	10.8	11.7	12.6	13.5	13.5	13.5	13.5	12.6	12.6
157.5°	7.2	8.1	9.0	9.9	10.8	11.7	11.7	11.7	11.7	11.7	10.8
160°	5.4	6.3	7.2	7.2	8.1	9.0	9.9	9.0	9.0	9.0	9.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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: P1213111

CATALOG NUMBER: 4SNLED-LD5-54HL-LN-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2
2.5°	1638.6	1637.7	1640.4	1635.9	1622.3	1625.9	1624.1	1632.3	1634.1	1635.9	1644.0
5°	1638.6	1637.7	1639.5	1635.9	1621.4	1624.1	1622.3	1630.5	1632.3	1633.2	1641.3
7.5°	1635.0	1634.1	1636.8	1632.3	1616.9	1620.5	1617.8	1625.9	1626.9	1627.8	1635.0
10°	1627.8	1626.9	1628.7	1625.0	1609.7	1613.3	1609.7	1617.8	1617.8	1619.6	1625.0
12.5°	1616.9	1615.1	1618.7	1614.2	1597.0	1601.6	1599.8	1605.2	1606.1	1607.0	1612.4
15°	1601.6	1599.8	1602.5	1599.8	1584.4	1585.3	1582.6	1590.7	1591.6	1589.8	1595.2
17.5°	1579.0	1577.2	1582.6	1580.8	1565.4	1569.0	1568.1	1569.9	1572.7	1568.1	1575.4
20°	1551.0	1552.8	1554.6	1555.5	1543.7	1543.7	1542.8	1546.5	1549.2	1545.6	1551.0
22.5°	1509.4	1513.9	1519.4	1521.2	1513.0	1512.1	1517.6	1515.7	1518.5	1516.6	1520.3
25°	1457.0	1466.1	1471.5	1476.9	1472.4	1474.2	1482.3	1484.1	1484.1	1483.2	1486.8
27.5°	1392.0	1403.7	1413.7	1425.4	1420.9	1424.5	1438.1	1439.9	1443.5	1439.9	1447.1
30°	1314.3	1325.1	1344.1	1361.3	1363.1	1368.5	1387.5	1389.3	1399.2	1395.6	1398.3
32.5°	1236.6	1242.0	1263.7	1280.9	1291.7	1305.3	1326.1	1329.7	1343.2	1345.9	1345.9
35°	1139.1	1154.4	1174.3	1198.7	1212.2	1226.7	1254.7	1260.1	1280.0	1286.3	1293.5
37.5°	1056.9	1071.3	1084.0	1109.3	1133.6	1149.9	1172.5	1186.0	1206.8	1218.6	1227.6
40°	969.2	981.0	994.5	1019.8	1040.6	1065.0	1087.6	1103.8	1130.0	1143.6	1155.3
42.5°	886.1	895.2	909.6	927.7	949.4	976.5	998.2	1017.1	1045.1	1064.1	1077.6
45°	812.1	817.5	830.1	843.7	862.7	890.7	911.4	935.8	958.4	978.3	994.5
47.5°	742.5	749.7	756.1	765.1	782.3	799.4	823.8	847.3	869.9	891.6	907.8
50°	678.4	678.4	688.3	694.6	706.4	721.7	740.7	757.0	785.0	800.3	821.1
52.5°	616.1	619.7	625.1	628.7	637.7	647.7	663.0	676.6	700.1	714.5	734.4
55°	561.0	564.6	567.3	569.1	574.5	586.2	591.7	602.5	618.8	630.5	647.7
57.5°	508.6	510.4	513.1	514.0	514.9	522.1	526.6	529.3	545.6	557.3	571.8
60°	460.7	460.7	463.4	462.5	461.6	465.2	464.3	467.0	476.9	484.2	490.5
62.5°	415.5	415.5	416.4	414.6	413.7	413.7	410.1	412.8	415.5	416.4	420.9
65°	374.0	378.5	374.9	375.8	370.4	368.5	366.7	361.3	360.4	356.8	358.6
67.5°	336.9	340.5	336.9	336.9	332.4	328.8	324.3	315.3	312.5	305.3	303.5
70°	307.1	304.4	306.2	303.5	298.1	293.6	287.3	280.0	271.0	262.0	255.6
72.5°	278.2	278.2	276.4	273.7	271.0	262.0	254.7	246.6	235.8	224.0	215.0
75°	250.2	251.1	251.1	248.4	243.9	235.8	227.6	215.9	204.1	190.6	178.9
77.5°	230.3	230.3	230.3	225.8	221.3	214.1	204.1	191.5	178.9	162.6	149.0
80°	211.4	210.5	210.5	205.1	200.5	192.4	182.5	169.8	156.3	139.1	123.8
82.5°	196.0	195.1	193.3	188.8	182.5	174.3	164.4	150.9	136.4	121.0	102.1
85°	179.8	178.9	177.0	172.5	166.2	159.0	148.1	134.6	120.1	103.0	84.9
87.5°	165.3	164.4	161.7	159.0	151.8	143.6	132.8	120.1	104.8	88.5	70.5
90°	155.4	153.6	151.8	148.1	141.8	132.8	121.9	108.4	93.0	76.8	58.7
92.5°	143.6	142.7	140.0	136.4	131.0	121.9	111.1	98.5	83.1	67.7	50.6
95°	131.9	131.0	129.2	125.6	120.1	112.0	102.1	89.4	75.0	59.6	44.3
97.5°	121.0	121.0	118.3	115.6	109.3	103.0	93.0	81.3	67.7	54.2	39.7
100°	112.0	112.0	109.3	105.7	101.2	94.8	84.9	74.1	61.4	48.8	34.3
102.5°	103.9	103.0	101.2	97.6	93.0	86.7	77.7	67.7	56.0	43.4	30.7
105°	96.7	95.8	93.9	90.3	86.7	79.5	72.3	62.3	50.6	38.8	27.1
107.5°	89.4	88.5	87.6	84.0	79.5	73.2	65.9	56.0	46.1	35.2	24.4
110°	83.1	82.2	80.4	76.8	72.3	66.8	59.6	51.5	41.6	31.6	21.7

TEST NUMBER: P1213111

CATALOG NUMBER: 4SNLED-LD5-54HL-LN-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
112.5°	77.7	76.8	75.0	71.4	67.7	61.4	55.1	46.1	37.9	28.9	19.0
115°	72.3	71.4	69.6	65.9	61.4	56.0	49.7	42.5	33.4	25.3	17.2
117.5°	66.8	65.9	64.1	61.4	56.9	51.5	45.2	37.9	29.8	23.5	15.4
120°	62.3	60.5	58.7	56.0	51.5	47.0	40.6	34.3	27.1	20.8	13.5
122.5°	57.8	56.0	54.2	51.5	47.0	42.5	36.1	30.7	25.3	19.0	12.6
125°	52.4	51.5	49.7	47.0	42.5	37.9	33.4	28.0	22.6	17.2	10.8
127.5°	47.9	47.0	45.2	41.6	37.9	34.3	29.8	25.3	19.9	14.5	9.9
130°	44.3	42.5	40.6	37.9	35.2	31.6	27.1	22.6	18.1	12.6	9.0
132.5°	39.7	37.9	36.1	34.3	31.6	28.0	24.4	19.9	16.3	11.7	8.1
135°	36.1	34.3	32.5	30.7	28.0	25.3	21.7	18.1	14.5	10.8	7.2
137.5°	31.6	30.7	29.8	28.0	25.3	22.6	19.9	15.4	12.6	9.9	6.3
140°	28.9	28.0	27.1	24.4	22.6	19.9	17.2	13.5	10.8	8.1	5.4
142.5°	26.2	25.3	23.5	21.7	19.9	18.1	14.5	12.6	9.9	7.2	5.4
145°	22.6	21.7	20.8	19.0	17.2	14.5	12.6	10.8	9.0	6.3	4.5
147.5°	20.8	19.9	18.1	16.3	14.5	12.6	11.7	9.9	7.2	5.4	3.6
150°	17.2	16.3	15.4	13.5	12.6	11.7	9.9	8.1	6.3	4.5	3.6
152.5°	14.5	13.5	12.6	12.6	10.8	9.9	8.1	7.2	5.4	4.5	2.7
155°	12.6	12.6	11.7	10.8	9.0	8.1	7.2	5.4	4.5	3.6	2.7
157.5°	10.8	9.9	9.0	9.0	8.1	7.2	5.4	4.5	3.6	3.6	2.7
160°	9.0	8.1	8.1	7.2	6.3	5.4	4.5	4.5	3.6	2.7	2.7
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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: P1213111

CATALOG NUMBER: 4SNLED-LD5-54HL-LN-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°	185°	190°	195°	200°	205°	210°	215°
0°	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2
2.5°	1644.9	1635.0	1644.0	1655.8	1655.8	1654.0	1652.1	1655.8	1664.8	1661.2	1650.3
5°	1642.2	1632.3	1640.4	1652.1	1652.1	1649.4	1647.6	1650.3	1660.3	1655.8	1645.8
7.5°	1636.8	1627.8	1633.2	1644.0	1644.0	1641.3	1639.5	1643.1	1651.2	1646.7	1635.9
10°	1626.9	1616.9	1623.2	1633.2	1632.3	1630.5	1627.8	1632.3	1639.5	1633.2	1620.5
12.5°	1614.2	1604.3	1609.7	1618.7	1617.8	1614.2	1612.4	1615.1	1621.4	1617.8	1604.3
15°	1597.0	1587.1	1591.6	1600.7	1597.9	1595.2	1591.6	1592.5	1600.7	1594.3	1579.9
17.5°	1576.3	1565.4	1569.0	1577.2	1574.5	1571.8	1567.2	1568.1	1577.2	1568.1	1552.8
20°	1551.0	1539.2	1541.9	1551.9	1547.4	1542.8	1538.3	1538.3	1547.4	1537.4	1520.3
22.5°	1523.9	1512.1	1513.9	1521.2	1517.6	1509.4	1504.9	1507.6	1512.1	1499.5	1481.4
25°	1490.5	1475.1	1477.8	1485.0	1482.3	1471.5	1467.0	1468.8	1467.0	1457.0	1438.1
27.5°	1451.6	1435.4	1437.2	1441.7	1438.1	1428.1	1422.7	1423.6	1420.0	1407.3	1385.7
30°	1402.8	1394.7	1393.8	1396.5	1391.1	1381.2	1374.8	1373.0	1372.1	1354.1	1327.9
32.5°	1353.2	1345.9	1341.4	1345.0	1338.7	1328.8	1317.9	1317.9	1308.9	1291.7	1269.1
35°	1302.6	1290.8	1286.3	1289.0	1281.8	1269.1	1260.1	1255.6	1242.0	1220.4	1196.0
37.5°	1237.5	1229.4	1224.0	1226.7	1218.6	1209.5	1192.4	1187.8	1173.4	1143.6	1112.9
40°	1167.1	1160.7	1155.3	1158.0	1149.0	1135.5	1120.1	1112.9	1096.6	1063.2	1038.8
42.5°	1091.2	1088.5	1082.2	1092.1	1074.0	1060.5	1045.1	1033.4	1017.1	981.0	953.0
45°	1010.8	1017.1	1002.7	1005.4	993.6	981.9	965.6	948.5	932.2	897.9	866.3
47.5°	925.9	930.4	920.5	922.3	909.6	898.8	884.3	862.7	844.6	814.8	786.8
50°	838.3	836.5	836.5	834.7	824.7	811.2	796.7	776.8	758.8	731.7	708.2
52.5°	745.2	748.8	750.6	755.2	742.5	734.4	711.8	694.6	681.1	653.1	633.2
55°	655.8	668.4	664.8	666.6	652.2	645.9	627.8	614.2	594.4	578.1	565.5
57.5°	574.5	577.2	579.0	581.7	575.4	562.8	548.3	537.5	522.1	508.6	499.5
60°	495.9	495.9	496.8	501.3	495.0	484.2	473.3	465.2	454.4	446.2	440.8
62.5°	421.8	428.2	429.1	425.5	417.3	411.9	404.7	400.2	392.9	390.2	388.4
65°	353.2	353.2	353.2	355.0	350.5	346.9	342.4	341.4	344.2	340.5	342.4
67.5°	295.4	292.7	290.9	291.8	290.0	288.2	287.3	290.0	295.4	295.4	299.9
70°	245.7	240.3	236.7	236.7	236.7	237.6	240.3	245.7	254.7	258.3	264.7
72.5°	205.1	193.3	187.9	187.9	188.8	192.4	200.5	210.5	218.6	225.8	234.0
75°	166.2	154.5	146.3	145.4	147.2	152.7	164.4	173.4	187.0	196.9	206.9
77.5°	134.6	120.1	110.2	109.3	112.0	120.1	134.6	146.3	161.7	172.5	183.4
80°	107.5	91.2	83.1	77.7	82.2	92.1	108.4	122.8	137.3	151.8	165.3
82.5°	85.8	70.5	57.8	52.4	57.8	71.4	86.7	103.9	118.3	133.7	147.2
85°	67.7	51.5	37.0	31.6	37.9	52.4	69.6	86.7	103.0	118.3	131.9
87.5°	53.3	37.0	22.6	15.4	23.5	38.8	55.1	72.3	89.4	104.8	118.3
90°	41.6	26.2	12.6	1.8	13.5	28.0	44.3	60.5	77.7	93.0	106.6
92.5°	35.2	19.9	7.2	0.0	8.1	20.8	36.1	52.4	67.7	83.1	96.7
95°	29.8	16.3	5.4	0.0	5.4	16.3	29.8	44.3	59.6	75.0	88.5
97.5°	25.3	12.6	3.6	0.0	3.6	12.6	24.4	38.8	52.4	66.8	79.5
100°	21.7	10.8	2.7	0.0	2.7	9.9	20.8	33.4	47.0	60.5	72.3
102.5°	19.0	9.0	1.8	0.0	1.8	8.1	17.2	28.9	40.6	53.3	65.0
105°	16.3	7.2	1.8	0.0	0.9	6.3	14.5	25.3	36.1	47.9	58.7
107.5°	14.5	6.3	1.8	0.0	0.9	5.4	12.6	21.7	32.5	42.5	52.4
110°	12.6	5.4	1.8	0.0	0.9	3.6	10.8	19.0	28.0	37.9	47.9

TEST NUMBER: P1213111

CATALOG NUMBER: 4SNLED-LD5-54HL-LN-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	165°	170°	175°	180°	185°	190°	195°	200°	205°	210°	215°
112.5°	10.8	4.5	0.9	0.0	0.0	2.7	9.0	16.3	24.4	34.3	42.5
115°	9.9	4.5	0.9	0.0	0.0	1.8	7.2	14.5	21.7	30.7	37.9
117.5°	9.0	3.6	0.9	0.0	0.9	1.8	6.3	12.6	19.0	26.2	34.3
120°	8.1	3.6	0.9	0.0	0.9	0.9	4.5	10.8	16.3	23.5	29.8
122.5°	7.2	3.6	0.9	0.0	0.9	0.9	3.6	9.0	14.5	20.8	26.2
125°	6.3	2.7	1.8	0.9	0.9	0.9	2.7	7.2	12.6	17.2	23.5
127.5°	6.3	2.7	1.8	0.9	0.9	0.9	1.8	6.3	9.9	15.4	20.8
130°	5.4	2.7	1.8	0.9	0.9	0.9	0.9	4.5	9.0	12.6	17.2
132.5°	4.5	2.7	1.8	0.9	0.9	0.9	0.9	2.7	6.3	10.8	14.5
135°	4.5	2.7	1.8	0.9	0.9	0.9	0.9	1.8	4.5	8.1	11.7
137.5°	3.6	1.8	1.8	0.9	0.9	0.9	0.9	0.9	3.6	6.3	9.0
140°	3.6	1.8	1.8	0.9	0.9	0.9	0.9	0.9	2.7	4.5	7.2
142.5°	2.7	1.8	1.8	0.9	0.9	0.9	0.9	0.9	1.8	3.6	5.4
145°	2.7	1.8	1.8	0.9	0.9	0.9	0.9	0.9	0.9	1.8	3.6
147.5°	2.7	2.7	1.8	0.9	0.9	0.9	0.9	0.9	0.9	1.8	2.7
150°	2.7	1.8	1.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.8
152.5°	2.7	1.8	1.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.8
155°	2.7	1.8	1.8	0.9	0.9	0.9	0.9	0.9	0.9	1.8	1.8
157.5°	2.7	1.8	1.8	0.9	0.9	0.9	0.9	0.9	0.9	0.9	1.8
160°	2.7	1.8	1.8	0.9	1.8	0.9	1.8	1.8	1.8	1.8	1.8
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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: P1213111

CATALOG NUMBER: 4SNLED-LD5-54HL-LN-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	220°	225°	230°	235°	240°	245°	250°	255°	260°	265°	270°
0°	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2
2.5°	1646.7	1629.6	1638.6	1635.9	1639.5	1646.7	1645.8	1644.0	1644.0	1641.3	1637.7
5°	1641.3	1625.0	1633.2	1628.7	1633.2	1639.5	1638.6	1635.9	1637.7	1633.2	1628.7
7.5°	1630.5	1616.0	1623.2	1619.6	1623.2	1629.6	1626.9	1625.9	1627.8	1620.5	1617.8
10°	1617.8	1601.6	1609.7	1605.2	1609.7	1614.2	1612.4	1608.8	1612.4	1605.2	1602.5
12.5°	1597.9	1584.4	1589.8	1588.0	1590.7	1595.2	1591.6	1588.9	1590.7	1584.4	1579.0
15°	1576.3	1562.7	1567.2	1564.5	1566.3	1571.8	1565.4	1564.5	1562.7	1556.4	1554.6
17.5°	1548.3	1535.6	1540.1	1535.6	1538.3	1536.5	1535.6	1531.1	1531.1	1523.9	1518.5
20°	1513.9	1503.1	1500.4	1496.8	1500.4	1496.8	1491.4	1487.7	1486.8	1479.6	1475.1
22.5°	1474.2	1461.5	1463.4	1453.4	1454.3	1448.9	1439.9	1436.3	1432.6	1424.5	1418.2
25°	1426.3	1413.7	1404.6	1398.3	1390.2	1389.3	1377.5	1368.5	1367.6	1357.7	1356.8
27.5°	1372.1	1357.7	1350.4	1335.1	1325.1	1317.0	1307.1	1298.0	1293.5	1282.7	1275.5
30°	1309.8	1293.5	1275.5	1264.6	1249.3	1242.9	1225.8	1214.9	1211.3	1199.6	1194.2
32.5°	1239.3	1222.2	1207.7	1186.9	1169.8	1160.7	1143.6	1132.7	1128.2	1115.6	1108.4
35°	1162.6	1143.6	1126.4	1106.5	1093.0	1077.6	1056.9	1046.0	1036.1	1031.6	1026.2
37.5°	1082.2	1061.4	1041.5	1021.6	1009.9	991.8	973.8	966.5	954.8	950.3	944.9
40°	999.1	978.3	959.3	940.3	926.8	910.5	894.3	891.6	878.9	874.4	870.8
42.5°	916.9	895.2	873.5	859.9	850.0	833.8	822.9	820.2	809.4	806.7	806.7
45°	842.8	815.7	797.6	785.9	777.7	764.2	755.2	753.4	744.3	742.5	742.5
47.5°	763.3	738.0	724.5	717.2	710.0	700.1	694.6	694.6	685.6	683.8	682.9
50°	689.2	665.7	655.8	648.6	647.7	640.4	635.9	634.1	634.1	627.8	628.7
52.5°	618.8	607.0	598.9	594.4	589.0	584.4	580.8	580.8	578.1	573.6	575.4
55°	553.7	540.2	541.1	537.5	534.8	532.0	533.0	527.5	526.6	523.0	525.7
57.5°	488.7	488.7	486.9	484.2	479.7	481.5	481.5	481.5	476.9	474.2	476.9
60°	433.6	436.3	431.8	434.5	432.7	433.6	431.8	431.8	429.1	428.2	429.1
62.5°	384.8	389.3	387.5	391.1	389.3	390.2	392.0	388.4	386.6	384.8	386.6
65°	341.4	346.9	346.0	348.7	349.6	350.5	351.4	349.6	347.8	346.0	345.1
67.5°	303.5	308.9	312.5	313.4	314.4	317.1	316.2	314.4	312.5	309.8	308.9
70°	269.2	276.4	280.9	282.7	286.3	284.5	284.5	283.6	281.8	279.1	278.2
72.5°	240.3	248.4	252.9	254.7	258.3	258.3	257.4	256.5	254.7	252.0	251.1
75°	215.0	222.2	228.5	232.1	234.9	234.9	234.0	233.1	231.2	229.4	228.5
77.5°	195.1	201.4	206.9	211.4	213.2	214.1	213.2	211.4	211.4	210.5	209.6
80°	175.2	182.5	187.9	192.4	195.1	195.1	194.2	195.1	193.3	192.4	191.5
82.5°	158.1	166.2	172.5	177.0	178.9	179.8	178.9	179.8	178.0	178.0	178.0
85°	142.7	150.9	158.1	161.7	164.4	165.3	165.3	165.3	164.4	164.4	164.4
87.5°	130.1	138.2	145.4	149.0	151.8	152.7	152.7	153.6	151.8	151.8	151.8
90°	118.3	126.5	133.7	137.3	140.0	141.8	141.8	142.7	141.8	140.9	140.9
92.5°	107.5	116.5	123.8	127.4	130.1	132.8	132.8	133.7	131.9	131.9	131.9
95°	98.5	107.5	113.8	118.3	121.0	122.8	123.8	123.8	122.8	122.8	122.8
97.5°	90.3	98.5	104.8	109.3	112.0	112.9	113.8	114.7	113.8	113.8	113.8
100°	82.2	90.3	96.7	100.3	103.9	104.8	105.7	106.6	106.6	105.7	105.7
102.5°	75.0	83.1	88.5	93.0	95.8	97.6	98.5	98.5	98.5	98.5	98.5
105°	67.7	75.9	81.3	85.8	88.5	90.3	91.2	92.1	92.1	91.2	91.2
107.5°	61.4	68.7	75.0	78.6	82.2	84.0	84.9	84.9	85.8	84.9	84.9
110°	55.1	63.2	68.7	72.3	75.9	77.7	78.6	79.5	79.5	79.5	79.5

TEST NUMBER: P1213111

CATALOG NUMBER: 4SNLED-LD5-54HL-LN-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	220°	225°	230°	235°	240°	245°	250°	255°	260°	265°	270°
112.5°	50.6	56.9	62.3	65.9	69.6	71.4	72.3	73.2	74.1	73.2	73.2
115°	45.2	51.5	56.9	60.5	63.2	65.0	66.8	67.7	67.7	68.7	67.7
117.5°	40.6	46.1	51.5	55.1	57.8	60.5	61.4	62.3	63.2	62.3	62.3
120°	36.1	41.6	46.1	49.7	52.4	55.1	56.0	56.9	57.8	56.9	56.9
122.5°	32.5	37.0	41.6	45.2	47.9	49.7	51.5	51.5	52.4	52.4	52.4
125°	28.9	33.4	37.0	40.6	43.4	45.2	46.1	47.0	47.0	47.9	47.9
127.5°	25.3	28.9	33.4	36.1	38.8	40.6	41.6	42.5	42.5	43.4	43.4
130°	21.7	25.3	28.9	31.6	34.3	36.1	37.0	37.9	38.8	38.8	38.8
132.5°	19.0	22.6	25.3	28.0	29.8	31.6	33.4	34.3	34.3	34.3	34.3
135°	15.4	19.0	21.7	24.4	26.2	28.0	28.9	30.7	30.7	30.7	30.7
137.5°	12.6	16.3	19.0	20.8	22.6	24.4	25.3	26.2	27.1	27.1	27.1
140°	9.9	12.6	15.4	18.1	19.9	20.8	22.6	22.6	23.5	23.5	23.5
142.5°	7.2	9.9	11.7	14.5	16.3	18.1	19.0	19.9	19.9	19.9	19.9
145°	5.4	7.2	9.0	10.8	13.5	14.5	15.4	16.3	17.2	17.2	17.2
147.5°	3.6	5.4	6.3	8.1	9.9	11.7	12.6	13.5	14.5	14.5	14.5
150°	2.7	3.6	5.4	6.3	7.2	9.0	10.8	10.8	11.7	11.7	10.8
152.5°	1.8	2.7	3.6	4.5	5.4	6.3	8.1	8.1	9.0	9.0	9.0
155°	1.8	1.8	1.8	2.7	3.6	4.5	5.4	6.3	6.3	6.3	6.3
157.5°	1.8	1.8	1.8	1.8	1.8	2.7	3.6	4.5	4.5	4.5	4.5
160°	1.8	1.8	0.9	0.9	1.8	1.8	1.8	1.8	2.7	2.7	2.7
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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: P1213111

CATALOG NUMBER: 4SNLED-LD5-54HL-LN-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	275°	280°	285°	290°	295°	300°	305°	310°	315°	320°	325°
0°	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2
2.5°	1640.4	1642.2	1642.2	1640.4	1639.5	1643.1	1638.6	1621.4	1626.9	1628.7	1634.1
5°	1632.3	1634.1	1634.1	1634.1	1632.3	1635.9	1631.4	1614.2	1620.5	1623.2	1626.9
7.5°	1620.5	1621.4	1623.2	1622.3	1620.5	1625.9	1621.4	1604.3	1608.8	1613.3	1617.8
10°	1605.2	1605.2	1606.1	1607.9	1606.1	1610.6	1606.1	1590.7	1595.2	1597.9	1603.4
12.5°	1584.4	1586.2	1587.1	1586.2	1585.3	1588.9	1587.1	1572.7	1574.5	1579.9	1585.3
15°	1556.4	1556.4	1560.9	1559.1	1559.1	1562.7	1564.5	1548.3	1551.0	1559.1	1564.5
17.5°	1522.1	1523.0	1526.6	1528.4	1527.5	1533.8	1534.7	1522.1	1521.2	1531.1	1536.5
20°	1477.8	1479.6	1484.1	1487.7	1487.7	1495.0	1497.7	1489.6	1490.5	1501.3	1503.1
22.5°	1423.6	1423.6	1431.7	1437.2	1441.7	1446.2	1454.3	1447.1	1447.1	1461.5	1469.7
25°	1356.8	1363.1	1365.8	1376.6	1383.0	1395.6	1402.8	1403.7	1404.6	1418.2	1423.6
27.5°	1282.7	1284.5	1292.6	1305.3	1312.5	1324.2	1337.8	1340.5	1345.0	1363.1	1371.2
30°	1198.7	1204.1	1207.7	1225.8	1235.7	1251.1	1268.2	1274.6	1278.2	1302.6	1312.5
32.5°	1112.9	1114.7	1130.0	1140.0	1151.7	1168.0	1187.8	1199.6	1206.8	1232.1	1246.6
35°	1027.1	1030.7	1043.3	1056.0	1067.7	1084.0	1104.7	1121.0	1133.6	1156.2	1175.2
37.5°	948.5	957.5	960.2	972.9	981.9	998.2	1012.6	1036.1	1048.7	1072.2	1096.6
40°	878.0	880.7	882.5	895.2	901.5	916.9	937.6	953.0	970.2	987.3	1016.2
42.5°	808.5	810.3	813.0	820.2	827.4	838.3	853.6	869.0	887.0	912.3	931.3
45°	744.3	746.1	747.9	752.5	758.8	768.7	778.6	789.5	807.6	829.2	849.1
47.5°	684.7	688.3	688.3	689.2	693.7	701.9	709.1	722.6	732.6	744.3	766.9
50°	627.8	630.5	631.4	631.4	634.1	639.5	641.3	650.4	659.4	670.3	686.5
52.5°	574.5	574.5	573.6	577.2	577.2	580.8	581.7	587.1	593.5	605.2	612.4
55°	523.9	523.9	526.6	524.8	524.8	526.6	525.7	526.6	532.0	539.3	545.6
57.5°	475.1	474.2	476.9	475.1	474.2	476.0	477.8	474.2	475.1	482.4	482.4
60°	426.4	427.3	430.0	428.2	428.2	428.2	426.4	424.6	422.7	427.3	429.1
62.5°	387.5	384.8	387.5	384.8	386.6	385.7	383.9	380.3	381.2	379.4	377.6
65°	346.9	346.9	347.8	345.1	346.9	346.9	344.2	343.3	337.8	336.0	331.5
67.5°	311.6	311.6	312.5	310.7	310.7	311.6	308.9	306.2	300.8	298.1	291.8
70°	280.9	280.9	280.9	280.0	280.0	280.0	278.2	274.6	269.2	264.7	256.5
72.5°	252.9	253.8	252.9	252.9	255.6	252.9	250.2	246.6	242.1	233.1	225.8
75°	230.3	231.2	230.3	230.3	230.3	229.4	228.5	223.1	217.7	210.5	199.6
77.5°	210.5	210.5	211.4	210.5	210.5	209.6	206.9	202.3	196.0	189.7	177.0
80°	191.5	192.4	193.3	194.2	192.4	191.5	188.8	185.2	177.0	169.8	157.2
82.5°	178.0	177.0	178.0	178.9	177.0	176.1	173.4	168.9	162.6	152.7	140.0
85°	164.4	163.5	163.5	164.4	163.5	161.7	159.0	154.5	148.1	138.2	125.6
87.5°	150.9	151.8	152.7	151.8	150.9	149.0	146.3	141.8	134.6	126.5	112.9
90°	140.9	140.9	140.9	140.9	140.0	138.2	135.5	130.1	123.8	113.8	102.1
92.5°	131.9	131.9	131.9	131.9	131.0	128.3	125.6	121.0	113.8	103.9	93.0
95°	122.8	123.8	122.8	122.8	121.0	120.1	115.6	111.1	104.8	94.8	83.1
97.5°	112.9	113.8	112.9	112.9	112.0	110.2	107.5	102.1	95.8	86.7	75.9
100°	105.7	105.7	104.8	104.8	103.9	102.1	98.5	93.9	87.6	78.6	67.7
102.5°	97.6	98.5	97.6	97.6	95.8	93.9	91.2	86.7	80.4	71.4	61.4
105°	91.2	91.2	90.3	90.3	88.5	86.7	84.0	78.6	73.2	65.0	55.1
107.5°	84.9	84.9	84.0	84.0	82.2	80.4	76.8	72.3	66.8	58.7	49.7
110°	78.6	78.6	78.6	77.7	75.9	73.2	70.5	65.9	60.5	53.3	44.3

TEST NUMBER: P1213111

CATALOG NUMBER: 4SNLED-LD5-54HL-LN-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	275°	280°	285°	290°	295°	300°	305°	310°	315°	320°	325°
112.5°	74.1	73.2	72.3	71.4	69.6	67.7	64.1	59.6	54.2	47.9	39.7
115°	67.7	67.7	66.8	65.9	64.1	61.4	58.7	55.1	49.7	42.5	35.2
117.5°	62.3	62.3	61.4	60.5	58.7	56.0	53.3	49.7	44.3	37.9	31.6
120°	56.9	56.9	56.0	55.1	53.3	50.6	48.8	44.3	39.7	33.4	28.0
122.5°	52.4	51.5	51.5	49.7	48.8	46.1	43.4	39.7	35.2	29.8	24.4
125°	47.0	47.0	46.1	45.2	44.3	41.6	38.8	35.2	30.7	26.2	21.7
127.5°	42.5	42.5	41.6	40.6	39.7	37.0	34.3	31.6	27.1	22.6	18.1
130°	37.9	37.9	37.0	36.1	35.2	32.5	30.7	27.1	23.5	19.9	15.4
132.5°	34.3	34.3	33.4	32.5	30.7	28.9	27.1	23.5	20.8	17.2	13.5
135°	30.7	29.8	29.8	28.9	27.1	25.3	23.5	20.8	17.2	14.5	10.8
137.5°	27.1	26.2	25.3	24.4	23.5	21.7	19.9	18.1	15.4	11.7	9.0
140°	23.5	22.6	22.6	21.7	19.9	19.0	17.2	14.5	12.6	9.9	7.2
142.5°	19.9	19.9	19.0	18.1	17.2	16.3	14.5	12.6	9.9	8.1	5.4
145°	17.2	16.3	16.3	15.4	14.5	12.6	11.7	9.9	8.1	6.3	4.5
147.5°	13.5	13.5	13.5	12.6	11.7	10.8	9.9	8.1	6.3	4.5	2.7
150°	10.8	10.8	10.8	9.9	9.0	8.1	7.2	6.3	4.5	2.7	1.8
152.5°	9.0	9.0	8.1	8.1	7.2	6.3	5.4	4.5	2.7	1.8	1.8
155°	6.3	6.3	6.3	5.4	5.4	4.5	3.6	2.7	1.8	1.8	1.8
157.5°	4.5	4.5	4.5	3.6	3.6	2.7	2.7	1.8	1.8	1.8	1.8
160°	2.7	2.7	2.7	2.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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: P1213111

CATALOG NUMBER: 4SNLED-LD5-54HL-LN-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	330°	335°	340°	345°	350°	355°	360°
0°	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2	1642.2
2.5°	1631.4	1630.5	1637.7	1637.7	1629.6	1642.2	1655.8
5°	1625.9	1625.0	1632.3	1632.3	1625.0	1637.7	1652.1
7.5°	1615.1	1616.0	1623.2	1625.0	1616.0	1627.8	1643.1
10°	1603.4	1602.5	1610.6	1612.4	1605.2	1616.0	1630.5
12.5°	1584.4	1584.4	1592.5	1595.2	1588.0	1600.7	1614.2
15°	1564.5	1564.5	1569.9	1574.5	1568.1	1579.9	1593.4
17.5°	1539.2	1538.3	1543.7	1549.2	1542.8	1555.5	1569.9
20°	1506.7	1506.7	1513.0	1519.4	1514.8	1526.6	1542.8
22.5°	1472.4	1468.8	1479.6	1484.1	1481.4	1493.2	1509.4
25°	1429.0	1428.1	1439.0	1445.3	1441.7	1454.3	1468.8
27.5°	1382.1	1381.2	1392.0	1400.1	1398.3	1410.1	1426.3
30°	1325.1	1329.7	1339.6	1353.2	1348.6	1361.3	1378.4
32.5°	1265.5	1270.0	1281.8	1296.2	1297.1	1307.1	1324.2
35°	1194.2	1205.9	1214.0	1233.0	1236.6	1246.6	1264.6
37.5°	1119.2	1132.7	1149.9	1164.4	1171.6	1179.7	1200.5
40°	1035.2	1055.1	1074.0	1091.2	1100.2	1108.4	1128.2
42.5°	959.3	974.7	992.7	1009.9	1026.2	1033.4	1054.2
45°	873.5	891.6	907.8	928.6	944.9	953.0	973.8
47.5°	789.5	807.6	829.2	843.7	860.9	869.0	888.9
50°	709.1	725.4	743.4	760.6	775.0	782.3	799.4
52.5°	629.6	646.8	663.9	674.8	690.1	695.5	710.0
55°	559.1	570.9	586.2	592.6	607.9	611.5	621.5
57.5°	491.4	499.5	504.9	515.8	526.6	534.8	546.5
60°	430.0	433.6	437.2	443.5	452.6	455.3	459.8
62.5°	374.9	374.0	381.2	383.0	383.9	392.9	388.4
65°	326.1	327.0	320.7	318.0	321.6	324.3	322.5
67.5°	285.4	280.0	274.6	268.3	262.9	265.6	262.9
70°	245.7	241.2	232.1	223.1	219.5	214.1	211.4
72.5°	214.1	203.2	194.2	182.5	176.1	169.8	165.3
75°	189.7	174.3	161.7	149.0	140.0	131.0	129.2
77.5°	164.4	149.9	135.5	121.9	108.4	98.5	94.8
80°	144.5	131.0	113.8	97.6	83.1	70.5	65.9
82.5°	126.5	112.0	94.8	77.7	61.4	47.9	42.5
85°	111.1	95.8	78.6	61.4	45.2	30.7	23.5
87.5°	99.4	82.2	65.0	48.8	31.6	17.2	9.0
90°	88.5	72.3	56.0	38.8	22.6	9.0	0.0
92.5°	78.6	63.2	47.0	31.6	17.2	5.4	0.9
95°	69.6	56.0	39.7	25.3	12.6	3.6	0.9
97.5°	62.3	48.8	34.3	20.8	9.9	2.7	0.9
100°	56.0	42.5	29.8	17.2	8.1	1.8	0.9
102.5°	49.7	37.9	25.3	14.5	6.3	0.9	0.9
105°	44.3	33.4	21.7	12.6	5.4	0.9	0.9
107.5°	39.7	29.8	19.0	10.8	3.6	0.9	0.9
110°	35.2	25.3	16.3	9.0	2.7	0.9	0.9

TEST NUMBER: P1213111

CATALOG NUMBER: 4SNLED-LD5-54HL-LN-UNV-L930-CD1-U

CANDELA DISTRIBUTION (continued):

	330°	335°	340°	345°	350°	355°	360°
112.5°	31.6	22.6	14.5	7.2	1.8	0.9	0.9
115°	28.0	19.9	12.6	6.3	1.8	0.9	0.9
117.5°	24.4	17.2	10.8	4.5	0.9	0.9	0.9
120°	21.7	15.4	9.0	3.6	0.9	0.9	0.9
122.5°	19.0	12.6	7.2	2.7	0.9	0.9	0.9
125°	16.3	10.8	6.3	1.8	0.9	0.9	0.9
127.5°	13.5	9.0	4.5	1.8	0.9	0.9	0.9
130°	11.7	7.2	3.6	0.9	0.9	0.9	0.9
132.5°	9.9	5.4	2.7	0.9	0.9	0.9	0.9
135°	8.1	4.5	1.8	0.9	0.9	0.9	0.9
137.5°	6.3	3.6	1.8	0.9	0.9	0.9	0.9
140°	4.5	2.7	0.9	0.9	0.9	0.9	0.9
142.5°	3.6	1.8	0.9	0.9	0.9	0.9	0.9
145°	2.7	1.8	0.9	0.9	0.9	0.9	0.9
147.5°	1.8	1.8	1.8	1.8	0.9	0.9	0.9
150°	1.8	1.8	0.9	0.9	1.8	0.9	0.9
152.5°	1.8	0.9	0.9	0.9	1.8	0.9	0.9
155°	1.8	1.8	1.8	1.8	1.8	1.8	0.9
157.5°	1.8	1.8	1.8	1.8	1.8	1.8	1.8
160°	1.8	1.8	1.8	1.8	1.8	1.8	1.8
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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)