

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: NEO-RAY

Report Number: P333054-935

Luminaire Tested: **S124RDIW-S575D1560U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333054-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIW-S575D1560U935-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 575 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6683.9 lumens
Efficiency: N/A
Efficacy: 110.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

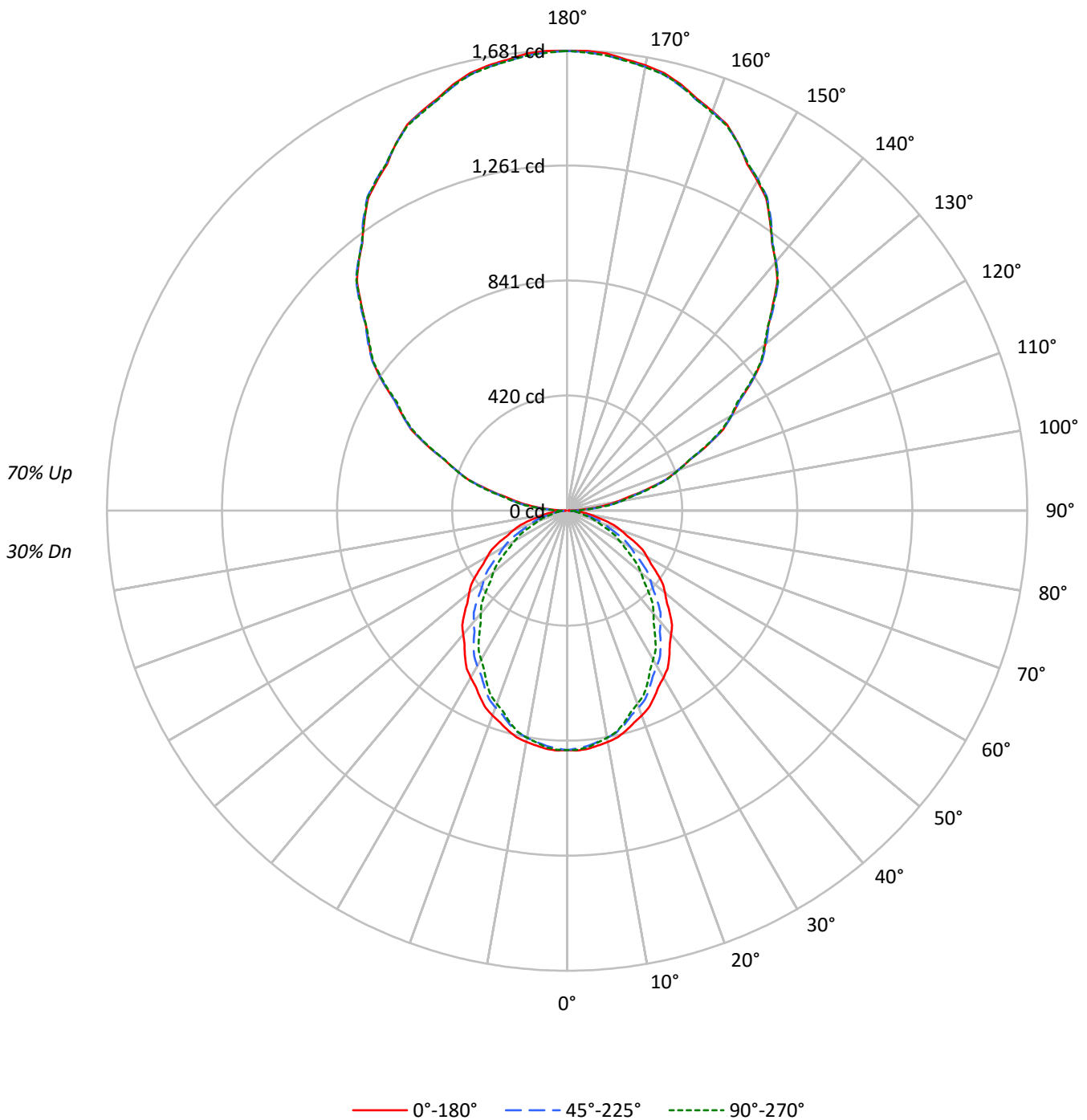
Input Watts (W): 60.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0
RCR																					
0	102	102	102	102	92	92	92	92	72	72	72	54	54	54	38	38	38	38	38	38	30
1	94	89	86	82	84	80	77	74	64	61	60	48	47	46	34	33	32	32	32	32	26
2	85	78	72	67	76	70	65	61	56	52	50	42	40	38	30	29	27	27	27	27	22
3	78	69	62	56	70	62	56	51	49	45	42	38	35	32	27	25	24	24	24	24	19
4	71	61	53	48	64	55	49	44	44	39	36	34	30	28	24	22	20	20	20	20	16
5	65	54	46	41	58	49	42	37	39	34	31	30	27	24	22	19	18	18	18	18	14
6	60	48	41	35	54	44	37	32	35	30	27	27	24	21	20	17	16	16	16	16	12
7	55	44	36	31	50	40	33	28	32	27	23	25	21	19	18	16	14	14	14	14	11
8	51	40	32	27	46	36	29	25	29	24	21	23	19	17	16	14	13	13	13	13	10
9	48	36	29	24	43	33	26	22	27	22	18	21	17	15	15	13	11	11	11	11	9
10	45	33	26	21	40	30	24	20	24	20	17	19	16	13	14	12	10	10	10	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7064	7064	7064
5°	7080	6994	7037
10°	7035	6909	6909
15°	6955	6764	6714
20°	6844	6574	6453
25°	6702	6350	6188
30°	6564	6114	5858
35°	6412	5870	5527
40°	6227	5592	5168
45°	6058	5316	4804
50°	5865	4999	4417
55°	5658	4669	3997
60°	5430	4306	3570
65°	5223	3851	3148
70°	4919	3354	2672
75°	4535	2779	2174
80°	3956	2115	1994
85°	3353	1927	1806



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	82.2	1.2
10°-20°	229.2	3.4
20°-30°	331.0	5.0
30°-40°	375.2	5.6
40°-50°	362.3	5.4
50°-60°	301.3	4.5
60°-70°	208.0	3.1
70°-80°	105.4	1.6
80°-90°	32.1	0.5
90°-100°	110.7	1.7
100°-110°	328.0	4.9
110°-120°	556.7	8.3
120°-130°	734.0	11.0
130°-140°	824.4	12.3
140°-150°	810.1	12.1
150°-160°	681.3	10.2
160°-170°	453.3	6.8
170°-180°	158.7	2.4
0°-30°	642.4	9.6
0°-40°	1017.6	15.2
0°-60°	1681.1	25.2
0°-90°	2026.7	30.3
90°-120°	995.4	14.9
90°-150°	3363.9	50.3
90°-180°	4657.0	69.7
0°-180°	6683.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	875	875	875	875	875	
5°	874	871	863	869	868	83
15°	832	825	809	808	803	234
25°	752	740	713	702	695	347
35°	651	628	596	573	561	406
45°	531	505	466	434	421	409
55°	402	374	332	298	284	359
65°	273	244	202	174	165	270
75°	145	120	89	74	70	154
85°	36	23	21	20	20	41
90°	4	18	29	36	39	7
95°	78	89	99	102	102	87
105°	302	304	309	313	317	321
115°	566	566	563	562	561	558
125°	824	824	823	820	818	734
135°	1063	1071	1071	1068	1064	822
145°	1292	1297	1298	1297	1293	808
155°	1480	1480	1479	1483	1479	681
165°	1611	1607	1605	1612	1607	454
175°	1676	1670	1668	1676	1668	159
180°	1679	1679	1679	1679	1679	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	875.0	875.0	875.0	875.0	875.0	875.0	875.0	875.0	875.0	875.0	875.0
2.5°	877.2	876.7	876.2	875.7	875.3	874.3	873.1	871.8	870.4	869.1	870.4
5°	873.7	873.1	872.5	871.8	871.3	870.1	868.3	866.5	864.7	863.0	864.4
7.5°	865.7	865.1	864.5	863.9	863.2	861.8	859.5	857.1	854.8	852.5	853.4
10°	858.2	857.6	856.8	856.0	855.3	853.6	850.9	848.2	845.5	842.8	843.4
12.5°	848.6	847.7	846.9	846.0	845.2	843.2	840.0	836.8	833.7	830.5	830.9
15°	832.2	830.8	829.5	828.1	826.7	824.2	820.5	816.8	813.0	809.3	809.1
17.5°	812.2	810.2	808.3	806.3	804.4	801.2	796.8	792.3	787.8	783.3	782.6
20°	796.6	794.7	792.7	790.8	788.8	785.4	780.3	775.2	770.2	765.2	764.0
22.5°	779.5	777.3	775.2	772.9	770.8	767.0	761.6	756.1	750.7	745.3	743.5
25°	752.4	749.8	747.0	744.3	741.7	737.3	731.2	725.0	718.9	712.9	710.3
27.5°	724.0	720.7	717.3	713.9	710.5	705.6	699.0	692.6	686.0	679.5	676.4
30°	704.1	700.4	696.7	693.0	689.3	683.9	676.9	669.9	662.9	655.9	652.2
32.5°	683.3	679.1	674.9	670.6	666.5	660.7	653.5	646.3	639.0	631.8	627.5
35°	650.6	645.8	641.0	636.3	631.5	625.4	617.9	610.5	603.0	595.6	590.6
37.5°	615.6	610.7	605.8	600.9	595.9	589.4	581.1	572.8	564.6	556.4	550.7
40°	590.9	586.0	581.1	576.2	571.3	564.6	556.1	547.6	539.2	530.6	524.3
42.5°	567.3	562.2	557.1	551.9	546.7	539.8	530.9	522.0	513.2	504.4	498.0
45°	530.6	525.1	519.6	514.1	508.6	501.4	492.4	483.5	474.6	465.6	458.3
47.5°	492.8	487.1	481.3	475.6	469.9	462.4	453.1	443.9	434.6	425.3	417.8
50°	467.0	461.2	455.4	449.5	443.8	436.1	426.5	417.1	407.5	398.0	390.5
52.5°	440.7	435.1	429.4	423.7	417.9	410.3	400.5	390.7	380.9	371.2	363.6
55°	402.0	396.1	390.1	384.1	378.2	370.3	360.7	351.0	341.3	331.7	323.9
57.5°	363.7	357.5	351.3	345.1	338.9	331.1	321.5	311.9	302.5	292.9	285.1
60°	336.3	330.4	324.4	318.5	312.5	304.8	295.2	285.7	276.2	266.7	258.9
62.5°	311.7	305.5	299.3	293.1	286.9	279.0	269.1	259.4	249.6	239.9	232.7
65°	273.4	267.0	260.5	254.2	247.7	239.8	230.2	220.8	211.2	201.6	195.3
67.5°	233.6	227.4	221.3	215.2	209.1	201.6	192.7	183.8	175.0	166.2	160.7
70°	208.4	202.1	195.9	189.6	183.4	176.0	167.5	159.0	150.5	142.1	137.2
72.5°	181.6	175.9	170.2	164.6	158.9	152.1	144.1	136.1	128.0	120.0	115.9
75°	145.4	139.9	134.4	128.9	123.4	117.1	110.1	103.1	96.1	89.1	85.7
77.5°	108.7	104.0	99.4	94.6	90.0	84.8	79.1	73.5	67.8	62.2	60.2
80°	85.1	80.8	76.5	72.2	67.8	63.5	59.0	54.5	50.0	45.5	45.1
82.5°	64.7	60.8	56.8	52.9	48.9	45.6	43.0	40.5	38.0	35.4	35.0
85°	36.2	33.2	30.2	27.2	24.3	22.6	22.1	21.7	21.2	20.8	20.5
87.5°	13.1	12.8	12.5	12.1	11.8	11.9	12.2	12.6	12.9	13.2	13.4
90°	3.9	7.1	10.2	13.4	16.6	19.4	21.6	23.9	26.3	28.6	30.3
92.5°	27.8	31.4	35.0	38.7	42.4	44.9	46.6	48.2	49.8	51.4	52.4
95°	77.9	80.5	83.1	85.7	88.3	90.6	92.6	94.6	96.7	98.7	99.5
97.5°	136.0	138.1	140.2	142.3	144.4	146.6	149.0	151.3	153.7	156.0	157.0
100°	181.8	182.9	184.1	185.2	186.4	188.2	190.9	193.5	196.0	198.6	199.2
102.5°	229.5	230.0	230.5	230.9	231.4	232.8	235.1	237.5	239.9	242.3	243.1
105°	302.5	302.8	303.1	303.3	303.7	304.4	305.5	306.7	307.8	309.0	309.9
107.5°	379.1	379.4	379.8	380.1	380.5	380.7	380.9	381.1	381.3	381.4	382.2
110°	431.0	431.6	432.1	432.7	433.3	433.5	433.2	432.9	432.6	432.3	431.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	485.0	485.2	485.3	485.3	485.5	485.3	484.7	484.2	483.7	483.2	483.1
115°	566.0	566.0	566.0	566.0	566.0	565.8	565.2	564.6	564.0	563.4	563.2
117.5°	642.4	642.6	642.8	643.1	643.3	643.3	642.8	642.4	642.0	641.6	640.6
120°	693.3	694.4	695.6	696.7	697.8	698.0	697.2	696.3	695.4	694.6	693.1
122.5°	746.2	746.7	747.2	747.6	748.0	748.1	747.7	747.3	746.9	746.5	745.5
125°	824.4	824.4	824.4	824.4	824.4	824.2	824.0	823.6	823.4	823.1	822.5
127.5°	895.3	896.1	897.0	897.9	898.7	899.0	898.5	898.0	897.6	897.1	896.5
130°	945.1	946.0	946.8	947.7	948.6	949.0	949.0	949.0	949.0	949.0	948.5
132.5°	996.0	996.7	997.3	997.9	998.6	998.8	998.5	998.3	998.1	997.8	997.3
135°	1063.2	1065.0	1066.7	1068.5	1070.2	1071.1	1071.1	1071.1	1071.1	1071.1	1070.5
137.5°	1136.5	1137.3	1138.1	1138.9	1139.7	1140.4	1140.8	1141.3	1141.8	1142.2	1141.4
140°	1185.3	1185.9	1186.5	1187.1	1187.6	1187.9	1187.9	1187.9	1187.9	1187.9	1187.6
142.5°	1229.9	1230.5	1231.1	1231.7	1232.3	1232.4	1232.2	1232.0	1231.7	1231.5	1231.5
145°	1291.8	1292.9	1294.1	1295.2	1296.4	1297.1	1297.4	1297.7	1298.0	1298.2	1298.0
147.5°	1353.1	1354.4	1355.8	1357.2	1358.6	1359.2	1358.9	1358.7	1358.5	1358.2	1358.0
150°	1390.4	1391.5	1392.8	1393.9	1395.1	1395.6	1395.6	1395.6	1395.6	1395.6	1395.6
152.5°	1425.7	1426.4	1427.1	1427.8	1428.5	1429.0	1429.2	1429.4	1429.7	1429.9	1430.6
155°	1480.0	1480.0	1480.0	1480.0	1480.0	1479.9	1479.5	1479.3	1479.0	1478.7	1479.9
157.5°	1525.7	1525.2	1524.7	1524.1	1523.6	1523.4	1523.3	1523.2	1523.2	1523.1	1524.0
160°	1552.7	1552.4	1552.1	1551.9	1551.5	1551.3	1551.0	1550.7	1550.4	1550.1	1551.0
162.5°	1577.6	1576.9	1576.1	1575.4	1574.6	1574.1	1573.8	1573.6	1573.2	1573.0	1574.5
165°	1611.1	1610.2	1609.4	1608.5	1607.7	1607.0	1606.4	1605.8	1605.2	1604.6	1606.4
167.5°	1636.8	1635.6	1634.4	1633.2	1632.0	1631.4	1631.5	1631.5	1631.6	1631.7	1633.4
170°	1651.4	1649.9	1648.5	1647.0	1645.6	1645.0	1645.3	1645.6	1645.9	1646.1	1647.9
172.5°	1661.7	1660.5	1659.3	1658.1	1656.9	1656.3	1656.4	1656.5	1656.5	1656.6	1658.5
175°	1676.0	1674.6	1673.2	1671.7	1670.3	1669.4	1669.1	1668.8	1668.5	1668.3	1670.3
177.5°	1680.7	1679.6	1678.4	1677.2	1676.1	1675.5	1675.5	1675.5	1675.5	1675.5	1677.1
180°	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	875.0	875.0	875.0	875.0	875.0	875.0	875.0	875.0
2.5°	871.8	873.1	874.3	874.9	874.9	874.7	874.6	874.5
5°	865.9	867.5	868.9	869.5	869.2	868.9	868.6	868.3
7.5°	854.4	855.3	856.4	856.5	856.1	855.6	855.1	854.6
10°	844.0	844.6	845.2	845.2	844.6	844.0	843.4	842.8
12.5°	831.2	831.6	832.0	831.7	830.9	830.1	829.2	828.4
15°	808.7	808.5	808.1	807.5	806.4	805.4	804.3	803.3
17.5°	781.7	780.8	780.0	778.8	777.2	775.7	774.0	772.5
20°	762.8	761.6	760.3	758.8	756.9	754.9	753.0	751.1
22.5°	741.8	739.9	738.1	736.5	734.9	733.3	731.8	730.1
25°	707.8	705.2	702.7	700.8	699.2	697.8	696.3	694.7
27.5°	673.2	670.1	667.0	664.3	662.2	660.0	658.0	655.8
30°	648.5	644.7	641.0	638.0	635.6	633.2	630.9	628.4
32.5°	623.2	618.9	614.5	611.2	609.0	606.7	604.4	602.2
35°	585.5	580.4	575.4	571.5	568.9	566.1	563.4	560.8
37.5°	545.0	539.4	533.7	529.6	526.8	524.2	521.5	518.8
40°	518.1	511.9	505.6	501.2	498.4	495.8	493.1	490.4
42.5°	491.6	485.3	478.9	474.3	471.5	468.7	465.9	463.1
45°	451.1	443.8	436.4	431.4	428.8	426.1	423.4	420.8
47.5°	410.2	402.6	395.0	389.8	386.8	383.9	381.0	378.0
50°	383.1	375.7	368.2	363.1	360.2	357.4	354.6	351.7
52.5°	356.0	348.4	341.0	335.7	332.7	329.8	326.8	323.9
55°	316.2	308.4	300.7	295.4	292.6	289.7	286.9	284.0
57.5°	277.2	269.3	261.5	256.5	254.3	252.2	250.0	247.9
60°	251.2	243.4	235.7	230.7	228.3	225.8	223.5	221.1
62.5°	225.6	218.4	211.3	206.7	204.8	202.9	201.0	199.1
65°	188.9	182.4	176.1	171.9	170.2	168.4	166.6	164.8
67.5°	155.2	149.6	144.1	140.4	138.4	136.5	134.5	132.5
70°	132.2	127.3	122.3	119.2	117.7	116.2	114.7	113.2
72.5°	111.7	107.5	103.2	100.5	99.1	97.7	96.3	95.0
75°	82.2	78.9	75.4	73.3	72.3	71.5	70.6	69.7
77.5°	58.2	56.2	54.2	53.0	52.8	52.5	52.3	52.0
80°	44.7	44.3	43.7	43.5	43.3	43.1	43.0	42.9
82.5°	34.7	34.4	34.1	33.8	33.7	33.5	33.4	33.2
85°	20.1	19.9	19.5	19.5	19.5	19.5	19.5	19.5
87.5°	13.7	13.9	14.1	14.4	14.6	14.8	15.1	15.3
90°	32.0	33.8	35.5	36.7	37.2	37.8	38.4	38.9
92.5°	53.5	54.5	55.5	56.2	56.6	56.9	57.3	57.6
95°	100.4	101.3	102.1	102.5	102.5	102.5	102.5	102.5
97.5°	158.2	159.2	160.2	160.7	160.7	160.7	160.7	160.7
100°	199.8	200.4	201.0	201.2	201.2	201.2	201.2	201.2
102.5°	243.8	244.7	245.5	246.0	246.2	246.5	246.7	246.9
105°	310.7	311.6	312.5	313.3	314.2	315.0	315.9	316.8
107.5°	383.1	383.8	384.7	385.0	385.0	385.0	384.9	384.8
110°	431.2	430.6	430.0	430.2	431.0	431.9	432.7	433.6



TEST NUMBER: P333054-935

CATALOG NUMBER: S124RDIW-S575D1560U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	482.9	482.8	482.8	482.8	482.9	483.1	483.3	483.5
115°	562.8	562.6	562.3	562.0	561.7	561.5	561.1	560.9
117.5°	639.6	638.7	637.7	636.9	636.3	635.8	635.2	634.6
120°	691.6	690.3	688.8	688.4	689.0	689.5	690.1	690.7
122.5°	744.5	743.6	742.6	741.6	740.5	739.5	738.5	737.4
125°	821.9	821.4	820.8	820.2	819.6	819.1	818.5	817.9
127.5°	896.0	895.4	894.8	894.2	893.8	893.4	892.9	892.4
130°	947.9	947.3	946.7	945.8	944.7	943.6	942.4	941.2
132.5°	996.7	996.1	995.5	995.0	994.5	994.1	993.6	993.2
135°	1069.9	1069.4	1068.8	1068.0	1067.1	1066.3	1065.4	1064.5
137.5°	1140.7	1140.0	1139.2	1138.9	1139.1	1139.3	1139.4	1139.6
140°	1187.3	1187.1	1186.7	1186.5	1186.2	1185.9	1185.6	1185.3
142.5°	1231.4	1231.3	1231.3	1231.2	1231.1	1231.1	1231.1	1231.0
145°	1297.7	1297.4	1297.1	1296.5	1295.6	1294.8	1293.9	1293.0
147.5°	1357.8	1357.5	1357.3	1357.0	1356.8	1356.5	1356.2	1355.9
150°	1395.6	1395.6	1395.6	1395.5	1395.2	1394.9	1394.6	1394.3
152.5°	1431.2	1431.9	1432.6	1432.6	1431.8	1431.2	1430.4	1429.6
155°	1481.0	1482.1	1483.3	1483.3	1482.1	1481.0	1479.9	1478.7
157.5°	1524.8	1525.7	1526.6	1526.5	1525.5	1524.6	1523.5	1522.6
160°	1551.9	1552.7	1553.6	1553.2	1551.9	1550.4	1548.9	1547.5
162.5°	1576.1	1577.6	1579.2	1579.2	1577.8	1576.4	1574.9	1573.5
165°	1608.1	1609.8	1611.5	1611.9	1610.7	1609.6	1608.3	1607.2
167.5°	1635.1	1636.8	1638.6	1638.6	1636.8	1635.0	1633.1	1631.3
170°	1649.7	1651.4	1653.1	1652.9	1651.0	1648.9	1646.9	1644.9
172.5°	1660.5	1662.4	1664.4	1664.4	1662.3	1660.4	1658.3	1656.3
175°	1672.3	1674.3	1676.4	1676.4	1674.3	1672.3	1670.3	1668.3
177.5°	1678.8	1680.3	1682.0	1681.9	1680.0	1678.2	1676.4	1674.5
180°	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6	1678.6

(END OF REPORT)