

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: P333034-940

Luminaire Tested: **S124RDIW-S350D1560U940-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333034-940
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-S350D1560U940-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 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: 6102.1 lumens
Efficiency: N/A
Efficacy: 114.3 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

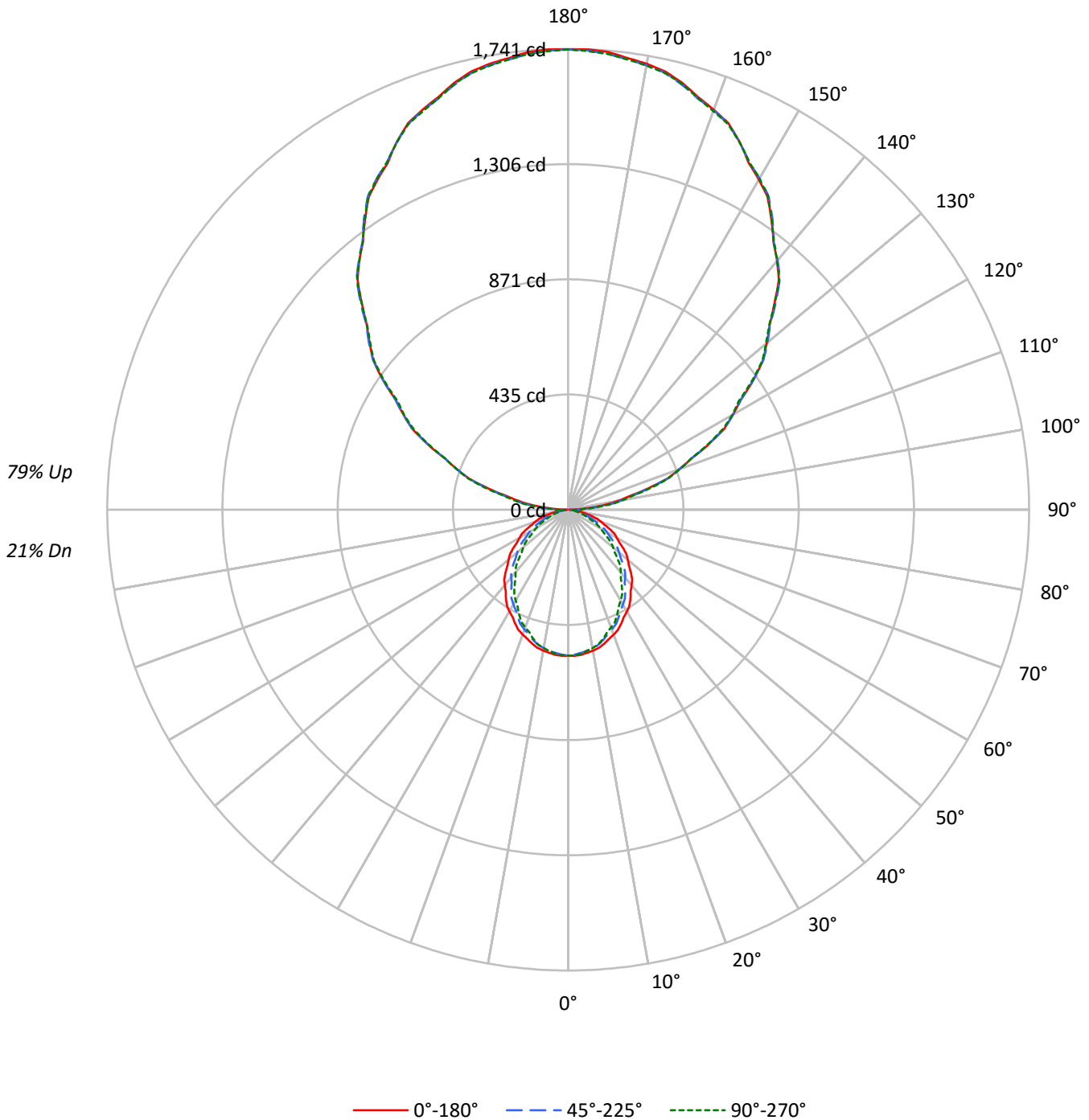
Input Watts (W): 53.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
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	100	100	100	100	89	89	89	89	67	67	67	48	48	48	29	29	29	21
1	91	87	84	80	81	77	74	72	59	57	55	42	41	40	26	26	25	18
2	83	76	70	66	73	68	63	59	52	48	46	37	35	33	23	22	21	15
3	76	67	60	55	67	60	54	49	46	42	38	33	30	28	21	19	18	13
4	69	59	52	46	61	53	46	42	40	36	33	29	26	24	18	17	16	11
5	64	53	45	39	56	47	40	36	36	32	28	26	23	21	17	15	14	10
6	58	47	39	34	52	42	35	31	32	28	24	23	20	18	15	13	12	9
7	54	42	35	30	48	38	31	27	29	25	21	21	18	16	14	12	11	8
8	50	38	31	26	44	34	28	24	27	22	19	19	16	14	13	11	10	7
9	46	35	28	23	41	31	25	21	24	20	17	18	15	13	12	10	9	6
10	43	32	25	20	38	28	23	19	22	18	15	16	13	11	11	9	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4451	4451	4451
5°	4460	4406	4433
10°	4432	4353	4353
15°	4381	4262	4229
20°	4312	4141	4064
25°	4222	4000	3899
30°	4135	3852	3691
35°	4039	3698	3482
40°	3923	3523	3256
45°	3817	3350	3027
50°	3695	3149	2783
55°	3564	2940	2519
60°	3421	2713	2249
65°	3289	2428	1983
70°	3099	2110	1683
75°	2857	1753	1369
80°	2492	1334	1255
85°	2112	1213	1130



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.8	0.8
10°-20°	144.4	2.4
20°-30°	208.5	3.4
30°-40°	236.4	3.9
40°-50°	228.2	3.7
50°-60°	189.8	3.1
60°-70°	131.1	2.1
70°-80°	66.4	1.1
80°-90°	22.2	0.4
90°-100°	114.7	1.9
100°-110°	339.7	5.6
110°-120°	576.5	9.4
120°-130°	760.2	12.5
130°-140°	853.8	14.0
140°-150°	839.0	13.7
150°-160°	705.6	11.6
160°-170°	469.5	7.7
170°-180°	164.4	2.7
0°-30°	404.7	6.6
0°-40°	641.0	10.5
0°-60°	1059.1	17.4
0°-90°	1278.8	21.0
90°-120°	1030.9	16.9
90°-150°	3483.9	57.1
90°-180°	4823.0	79.0
0°-180°	6102.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	551	551	551	551	551	
5°	550	548	544	548	547	52
15°	524	520	510	509	506	148
25°	474	466	449	442	438	218
35°	410	396	375	361	353	256
45°	334	318	293	273	265	258
55°	253	236	209	188	179	226
65°	172	154	127	110	104	170
75°	92	76	56	47	44	97
85°	23	15	13	12	12	26
90°	4	19	30	37	40	6
95°	81	93	102	106	106	90
105°	313	315	320	324	328	332
115°	586	586	584	582	581	578
125°	854	854	852	850	847	761
135°	1101	1109	1109	1106	1102	852
145°	1338	1343	1344	1343	1339	837
155°	1533	1533	1531	1536	1531	705
165°	1669	1665	1662	1669	1665	470
175°	1736	1729	1728	1736	1728	165
180°	1738	1738	1738	1738	1738	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3
2.5°	552.6	552.2	552.0	551.7	551.3	550.8	550.0	549.2	548.3	547.5	548.3
5°	550.4	550.0	549.7	549.3	548.8	548.1	547.0	545.9	544.7	543.7	544.6
7.5°	545.4	545.0	544.7	544.2	543.9	542.9	541.4	539.9	538.5	537.1	537.6
10°	540.6	540.2	539.8	539.3	538.8	537.7	536.0	534.3	532.6	531.0	531.4
12.5°	534.6	534.0	533.5	533.0	532.4	531.2	529.1	527.2	525.2	523.2	523.4
15°	524.2	523.3	522.5	521.7	520.8	519.2	516.9	514.5	512.2	509.9	509.7
17.5°	511.7	510.4	509.2	508.0	506.8	504.7	501.9	499.1	496.3	493.5	492.9
20°	501.9	500.6	499.4	498.2	497.0	494.8	491.6	488.4	485.2	482.0	481.3
22.5°	491.1	489.6	488.3	487.0	485.5	483.1	479.7	476.4	473.0	469.5	468.4
25°	474.0	472.3	470.6	469.0	467.3	464.5	460.7	456.8	452.9	449.1	447.5
27.5°	456.1	454.0	451.8	449.8	447.6	444.5	440.4	436.3	432.2	428.1	426.1
30°	443.6	441.2	438.9	436.6	434.3	430.9	426.4	422.0	417.6	413.2	410.9
32.5°	430.4	427.8	425.2	422.5	419.8	416.3	411.7	407.2	402.6	398.1	395.3
35°	409.8	406.8	403.9	400.8	397.8	394.0	389.3	384.6	380.0	375.2	372.0
37.5°	387.8	384.7	381.7	378.5	375.4	371.3	366.0	360.9	355.7	350.5	347.0
40°	372.3	369.2	366.0	363.0	359.9	355.7	350.4	345.0	339.7	334.3	330.4
42.5°	357.4	354.2	350.9	347.7	344.5	340.0	334.5	328.9	323.3	317.7	313.7
45°	334.3	330.8	327.3	323.9	320.4	315.8	310.2	304.6	299.0	293.4	288.7
47.5°	310.4	306.8	303.3	299.6	296.0	291.3	285.5	279.6	273.8	268.0	263.1
50°	294.2	290.5	286.9	283.2	279.6	274.7	268.8	262.7	256.7	250.7	246.0
52.5°	277.7	274.0	270.5	266.9	263.3	258.4	252.3	246.1	240.0	233.8	229.1
55°	253.2	249.5	245.8	242.0	238.3	233.3	227.2	221.1	215.0	208.9	204.0
57.5°	229.1	225.2	221.3	217.4	213.5	208.6	202.5	196.5	190.6	184.5	179.6
60°	211.9	208.1	204.4	200.6	196.9	192.0	186.0	179.9	174.0	168.0	163.1
62.5°	196.4	192.4	188.5	184.7	180.7	175.8	169.6	163.5	157.3	151.1	146.6
65°	172.2	168.2	164.2	160.2	156.0	151.1	145.1	139.0	133.0	127.1	123.1
67.5°	147.1	143.3	139.4	135.5	131.7	127.0	121.4	115.8	110.2	104.7	101.2
70°	131.3	127.3	123.4	119.5	115.5	110.8	105.5	100.1	94.8	89.4	86.4
72.5°	114.4	110.8	107.3	103.7	100.1	95.9	90.8	85.7	80.7	75.6	73.0
75°	91.6	88.1	84.6	81.1	77.7	73.7	69.4	64.9	60.5	56.2	53.9
77.5°	68.5	65.5	62.6	59.7	56.7	53.4	49.8	46.3	42.7	39.1	37.9
80°	53.6	50.9	48.2	45.5	42.7	39.9	37.2	34.3	31.5	28.7	28.4
82.5°	40.8	38.3	35.8	33.3	30.8	28.7	27.1	25.5	23.9	22.3	22.1
85°	22.8	21.0	19.1	17.1	15.2	14.2	13.9	13.6	13.4	13.1	12.9
87.5°	8.6	8.6	8.6	8.7	8.8	9.0	9.5	9.8	10.3	10.6	11.0
90°	4.0	7.3	10.6	13.9	17.2	20.1	22.4	24.8	27.2	29.6	31.4
92.5°	28.8	32.5	36.3	40.0	43.9	46.5	48.2	49.9	51.5	53.2	54.3
95°	80.7	83.4	86.1	88.7	91.4	93.8	95.9	98.0	100.1	102.2	103.1
97.5°	140.9	143.0	145.2	147.4	149.5	151.9	154.3	156.7	159.2	161.6	162.6
100°	188.2	189.4	190.6	191.8	193.1	194.9	197.7	200.4	203.0	205.7	206.3
102.5°	237.7	238.2	238.7	239.2	239.6	241.1	243.5	246.0	248.4	250.9	251.7
105°	313.3	313.6	313.9	314.1	314.5	315.2	316.4	317.6	318.8	320.0	320.9
107.5°	392.6	393.0	393.3	393.7	394.0	394.3	394.5	394.7	394.8	395.0	395.8
110°	446.4	447.0	447.5	448.2	448.8	449.0	448.6	448.4	448.0	447.7	447.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	502.3	502.5	502.6	502.7	502.8	502.6	502.0	501.5	501.0	500.4	500.3
115°	586.2	586.2	586.2	586.2	586.2	585.9	585.3	584.7	584.2	583.5	583.3
117.5°	665.3	665.5	665.8	666.0	666.3	666.2	665.8	665.3	664.9	664.5	663.4
120°	718.0	719.2	720.4	721.6	722.7	722.9	722.0	721.1	720.2	719.3	717.8
122.5°	772.8	773.3	773.8	774.3	774.7	774.8	774.4	773.9	773.6	773.1	772.1
125°	853.8	853.8	853.8	853.8	853.8	853.6	853.4	853.0	852.7	852.5	851.9
127.5°	927.2	928.1	929.0	929.9	930.8	931.0	930.5	930.1	929.6	929.1	928.4
130°	978.8	979.7	980.6	981.5	982.4	982.8	982.8	982.8	982.8	982.8	982.3
132.5°	1031.5	1032.2	1032.9	1033.5	1034.2	1034.4	1034.1	1033.9	1033.7	1033.4	1032.9
135°	1101.2	1103.0	1104.7	1106.6	1108.4	1109.3	1109.3	1109.3	1109.3	1109.3	1108.7
137.5°	1177.1	1177.9	1178.7	1179.6	1180.4	1181.1	1181.5	1182.0	1182.5	1182.9	1182.1
140°	1227.6	1228.2	1228.8	1229.4	1229.9	1230.3	1230.3	1230.3	1230.3	1230.3	1229.9
142.5°	1273.8	1274.4	1275.1	1275.6	1276.2	1276.4	1276.1	1275.9	1275.7	1275.4	1275.4
145°	1337.8	1339.0	1340.2	1341.4	1342.6	1343.4	1343.6	1344.0	1344.3	1344.5	1344.3
147.5°	1401.3	1402.8	1404.2	1405.6	1407.0	1407.7	1407.4	1407.1	1406.9	1406.7	1406.4
150°	1440.0	1441.2	1442.4	1443.6	1444.8	1445.4	1445.4	1445.4	1445.4	1445.4	1445.4
152.5°	1476.6	1477.3	1478.0	1478.7	1479.4	1480.0	1480.2	1480.4	1480.7	1480.9	1481.6
155°	1532.8	1532.8	1532.8	1532.8	1532.8	1532.7	1532.3	1532.0	1531.8	1531.4	1532.7
157.5°	1580.1	1579.6	1579.0	1578.5	1578.0	1577.7	1577.6	1577.5	1577.5	1577.4	1578.3
160°	1608.1	1607.8	1607.5	1607.2	1606.9	1606.6	1606.3	1606.0	1605.7	1605.4	1606.3
162.5°	1633.9	1633.2	1632.4	1631.6	1630.8	1630.2	1630.0	1629.7	1629.3	1629.1	1630.7
165°	1668.6	1667.7	1666.8	1665.9	1665.0	1664.3	1663.7	1663.0	1662.5	1661.9	1663.7
167.5°	1695.2	1694.0	1692.7	1691.5	1690.2	1689.6	1689.7	1689.7	1689.8	1689.9	1691.7
170°	1710.3	1708.8	1707.3	1705.8	1704.3	1703.7	1704.0	1704.3	1704.6	1704.9	1706.6
172.5°	1721.0	1719.8	1718.5	1717.3	1716.0	1715.4	1715.5	1715.6	1715.6	1715.7	1717.7
175°	1735.8	1734.3	1732.9	1731.3	1729.8	1728.9	1728.7	1728.3	1728.0	1727.8	1729.8
177.5°	1740.6	1739.5	1738.3	1737.1	1735.9	1735.3	1735.3	1735.3	1735.3	1735.3	1737.0
180°	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3
2.5°	549.2	550.0	550.8	551.2	551.1	551.1	551.0	550.9
5°	545.5	546.4	547.4	547.8	547.6	547.4	547.2	547.0
7.5°	538.2	538.9	539.5	539.6	539.3	539.0	538.7	538.4
10°	531.7	532.1	532.4	532.4	532.1	531.7	531.4	531.0
12.5°	523.6	523.9	524.1	524.0	523.4	522.9	522.4	521.8
15°	509.5	509.3	509.1	508.7	508.0	507.4	506.8	506.0
17.5°	492.4	492.0	491.4	490.6	489.6	488.7	487.7	486.7
20°	480.5	479.7	479.0	478.0	476.8	475.5	474.4	473.1
22.5°	467.3	466.1	465.0	464.0	463.0	462.0	461.0	459.9
25°	445.9	444.3	442.7	441.5	440.5	439.5	438.6	437.7
27.5°	424.1	422.1	420.2	418.6	417.1	415.8	414.5	413.1
30°	408.5	406.2	403.9	401.9	400.4	399.0	397.4	395.9
32.5°	392.6	389.9	387.2	385.0	383.6	382.2	380.8	379.3
35°	368.8	365.7	362.5	360.1	358.4	356.7	355.0	353.3
37.5°	343.4	339.8	336.3	333.6	331.9	330.2	328.5	326.8
40°	326.4	322.4	318.5	315.8	314.1	312.4	310.7	309.0
42.5°	309.7	305.7	301.7	298.8	297.0	295.2	293.5	291.8
45°	284.2	279.6	274.9	271.8	270.1	268.4	266.7	265.1
47.5°	258.4	253.6	248.9	245.6	243.7	241.8	240.0	238.2
50°	241.3	236.7	231.9	228.7	226.9	225.2	223.4	221.6
52.5°	224.3	219.5	214.8	211.4	209.6	207.8	205.9	204.0
55°	199.2	194.3	189.4	186.1	184.3	182.5	180.7	179.0
57.5°	174.6	169.7	164.7	161.6	160.2	158.9	157.5	156.1
60°	158.2	153.4	148.5	145.3	143.7	142.3	140.8	139.3
62.5°	142.1	137.6	133.1	130.3	129.0	127.9	126.6	125.5
65°	119.0	114.9	110.9	108.3	107.2	106.1	105.0	103.8
67.5°	97.7	94.3	90.8	88.5	87.2	86.0	84.7	83.5
70°	83.3	80.2	77.1	75.1	74.1	73.2	72.2	71.3
72.5°	70.4	67.7	65.1	63.3	62.4	61.6	60.7	59.8
75°	51.8	49.7	47.5	46.2	45.6	45.0	44.5	43.9
77.5°	36.6	35.4	34.2	33.4	33.3	33.1	32.9	32.7
80°	28.2	27.8	27.6	27.4	27.3	27.2	27.1	27.0
82.5°	21.8	21.7	21.5	21.3	21.2	21.1	21.0	21.0
85°	12.8	12.5	12.3	12.2	12.2	12.2	12.2	12.2
87.5°	11.2	11.5	11.8	12.0	12.2	12.4	12.6	12.8
90°	33.2	35.0	36.7	38.0	38.5	39.1	39.8	40.3
92.5°	55.4	56.4	57.5	58.2	58.6	58.9	59.3	59.7
95°	104.0	104.9	105.8	106.2	106.2	106.2	106.2	106.2
97.5°	163.8	164.9	165.9	166.5	166.5	166.5	166.5	166.5
100°	206.9	207.5	208.1	208.4	208.4	208.4	208.4	208.4
102.5°	252.5	253.4	254.2	254.8	255.0	255.3	255.5	255.7
105°	321.8	322.7	323.6	324.5	325.4	326.3	327.2	328.1
107.5°	396.7	397.5	398.4	398.8	398.7	398.7	398.6	398.5
110°	446.6	445.9	445.3	445.5	446.4	447.3	448.2	449.1



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CATALOG NUMBER: S124RDIW-S350D1560U940-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	500.2	500.1	500.0	500.0	500.2	500.3	500.5	500.7
115°	582.9	582.6	582.4	582.0	581.8	581.5	581.1	580.9
117.5°	662.5	661.5	660.4	659.6	659.0	658.4	657.8	657.2
120°	716.3	714.9	713.4	712.9	713.5	714.1	714.7	715.3
122.5°	771.1	770.1	769.1	768.0	767.0	765.9	764.8	763.8
125°	851.2	850.7	850.1	849.4	848.8	848.3	847.7	847.0
127.5°	927.9	927.3	926.7	926.1	925.7	925.2	924.7	924.3
130°	981.7	981.1	980.4	979.5	978.4	977.2	976.0	974.8
132.5°	1032.2	1031.6	1031.0	1030.5	1030.0	1029.6	1029.0	1028.6
135°	1108.0	1107.5	1106.9	1106.1	1105.2	1104.3	1103.4	1102.5
137.5°	1181.4	1180.6	1179.8	1179.6	1179.7	1179.9	1180.1	1180.3
140°	1229.7	1229.4	1229.0	1228.8	1228.5	1228.2	1227.9	1227.6
142.5°	1275.3	1275.2	1275.2	1275.1	1275.1	1275.1	1275.0	1274.9
145°	1344.0	1343.6	1343.4	1342.7	1341.8	1341.0	1340.1	1339.2
147.5°	1406.2	1406.0	1405.7	1405.4	1405.2	1404.9	1404.5	1404.3
150°	1445.4	1445.4	1445.4	1445.3	1444.9	1444.7	1444.4	1444.0
152.5°	1482.3	1483.0	1483.7	1483.7	1482.9	1482.2	1481.4	1480.6
155°	1533.8	1535.0	1536.2	1536.2	1535.0	1533.8	1532.7	1531.4
157.5°	1579.2	1580.1	1581.0	1580.9	1579.9	1579.0	1577.9	1576.9
160°	1607.2	1608.1	1609.0	1608.6	1607.2	1605.7	1604.2	1602.7
162.5°	1632.3	1633.9	1635.5	1635.6	1634.1	1632.6	1631.1	1629.6
165°	1665.4	1667.2	1669.0	1669.4	1668.1	1667.0	1665.7	1664.6
167.5°	1693.4	1695.2	1697.0	1697.0	1695.1	1693.3	1691.4	1689.5
170°	1708.5	1710.3	1712.1	1711.9	1709.9	1707.7	1705.7	1703.5
172.5°	1719.8	1721.7	1723.8	1723.8	1721.6	1719.6	1717.4	1715.4
175°	1732.0	1734.0	1736.2	1736.2	1734.0	1732.0	1729.8	1727.8
177.5°	1738.7	1740.3	1742.0	1741.9	1739.9	1738.0	1736.2	1734.2
180°	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5	1738.5

(END OF REPORT)