

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: P333026

Luminaire Tested: **S124RDIW-S350D1050U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P333026  
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-S350D1050U835-4F0-1E-UDD-F1  
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1050 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5066.3 lumens  
Efficiency: N/A  
Efficacy: 133.3 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

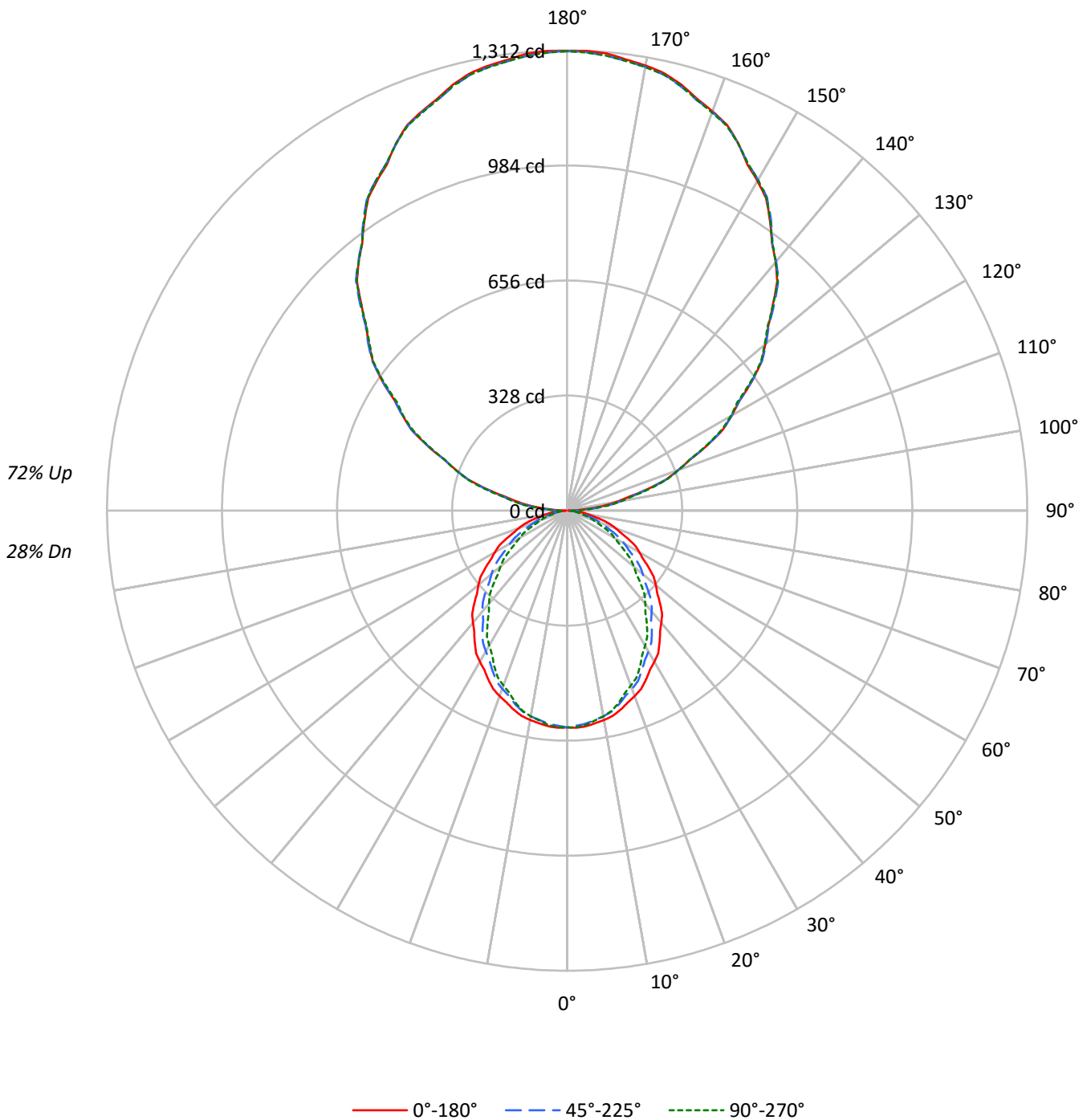
Input Watts (W): 38  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	28
1	93	89	85	82	83	80	77	74	63	60	59	47	45	44	32	31	31	24
2	85	78	72	67	76	70	65	61	55	52	49	41	39	37	28	27	26	20
3	77	68	61	56	69	62	56	51	49	44	41	36	34	32	25	24	22	17
4	71	61	53	47	63	54	48	43	43	39	35	33	29	27	23	21	19	15
5	65	54	46	40	58	49	42	37	39	34	30	29	26	23	20	18	17	13
6	60	48	40	35	53	44	37	32	35	30	26	26	23	20	19	17	15	12
7	55	43	36	30	49	39	33	28	31	26	23	24	21	18	17	15	13	10
8	51	39	32	27	46	36	29	25	28	24	20	22	18	16	16	13	12	9
9	47	36	29	24	42	32	26	22	26	21	18	20	17	14	14	12	11	8
10	44	33	26	21	40	30	24	20	24	19	16	18	15	13	13	11	10	8

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4991	4991	4991
5°	5002	4941	4971
10°	4970	4882	4882
15°	4914	4779	4743
20°	4835	4643	4558
25°	4735	4486	4372
30°	4638	4320	4139
35°	4529	4147	3905
40°	4400	3951	3652
45°	4280	3756	3394
50°	4143	3532	3121
55°	3997	3298	2825
60°	3836	3042	2522
65°	3689	2722	2223
70°	3474	2367	1888
75°	3203	1965	1535
80°	2794	1497	1409
85°	2371	1362	1269



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.1	1.1
10°-20°	161.9	3.2
20°-30°	233.8	4.6
30°-40°	265.1	5.2
40°-50°	255.9	5.1
50°-60°	212.8	4.2
60°-70°	147.0	2.9
70°-80°	74.5	1.5
80°-90°	23.0	0.5
90°-100°	86.4	1.7
100°-110°	255.9	5.1
110°-120°	434.4	8.6
120°-130°	572.8	11.3
130°-140°	643.3	12.7
140°-150°	632.1	12.5
150°-160°	531.7	10.5
160°-170°	353.7	7.0
170°-180°	123.9	2.4
0°-30°	453.8	9.0
0°-40°	718.9	14.2
0°-60°	1187.7	23.4
0°-90°	1432.1	28.3
90°-120°	776.7	15.3
90°-150°	2624.9	51.8
90°-180°	3634.0	71.7
0°-180°	5066.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	618	618	618	618	618	
5°	617	615	610	614	613	59
15°	588	583	572	571	568	166
25°	532	522	504	496	491	245
35°	460	444	421	405	396	287
45°	375	357	329	307	297	289
55°	284	264	234	211	201	254
65°	193	172	142	123	116	191
75°	103	85	63	53	49	108
85°	26	16	15	14	14	29
90°	3	14	22	28	30	5
95°	61	70	77	80	80	68
105°	236	237	241	244	247	250
115°	442	442	440	439	438	435
125°	643	643	642	640	638	573
135°	830	835	836	834	831	642
145°	1008	1012	1013	1012	1009	631
155°	1155	1155	1154	1158	1154	531
165°	1257	1254	1252	1258	1254	354
175°	1308	1303	1302	1308	1302	124
180°	1310	1310	1310	1310	1310	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2
2.5°	619.7	619.3	619.0	618.7	618.3	617.7	616.8	615.9	614.9	614.0	614.9
5°	617.2	616.8	616.4	616.0	615.5	614.7	613.4	612.2	610.9	609.7	610.7
7.5°	611.6	611.2	610.8	610.3	609.9	608.8	607.2	605.5	603.9	602.3	602.9
10°	606.3	605.8	605.3	604.8	604.2	603.0	601.1	599.2	597.3	595.5	595.9
12.5°	599.5	598.9	598.3	597.7	597.1	595.7	593.4	591.2	589.0	586.7	587.0
15°	587.9	586.9	586.0	585.0	584.1	582.3	579.7	577.0	574.4	571.8	571.6
17.5°	573.8	572.4	571.0	569.7	568.3	566.0	562.9	559.7	556.6	553.4	552.8
20°	562.8	561.4	560.1	558.7	557.3	554.9	551.3	547.7	544.1	540.5	539.7
22.5°	550.7	549.1	547.6	546.1	544.5	541.8	538.0	534.2	530.4	526.5	525.3
25°	531.6	529.7	527.8	525.9	524.0	520.9	516.6	512.3	507.9	503.6	501.8
27.5°	511.5	509.1	506.7	504.4	502.0	498.5	493.9	489.3	484.7	480.1	477.8
30°	497.5	494.8	492.2	489.6	487.0	483.2	478.2	473.3	468.3	463.4	460.8
32.5°	482.7	479.7	476.8	473.8	470.8	466.8	461.7	456.6	451.5	446.4	443.3
35°	459.6	456.2	452.9	449.5	446.1	441.8	436.6	431.3	426.1	420.8	417.2
37.5°	434.9	431.4	428.0	424.5	421.0	416.4	410.5	404.7	398.9	393.1	389.1
40°	417.5	414.0	410.5	407.1	403.6	398.9	392.9	386.9	380.9	374.9	370.5
42.5°	400.8	397.2	393.5	389.9	386.3	381.3	375.1	368.8	362.6	356.3	351.8
45°	374.9	371.0	367.1	363.2	359.3	354.2	347.9	341.6	335.3	329.0	323.8
47.5°	348.1	344.1	340.1	336.0	332.0	326.7	320.2	313.6	307.0	300.5	295.1
50°	329.9	325.8	321.7	317.6	313.5	308.1	301.4	294.6	287.9	281.2	275.9
52.5°	311.4	307.3	303.3	299.3	295.3	289.8	282.9	276.0	269.1	262.2	256.9
55°	284.0	279.8	275.6	271.4	267.2	261.6	254.8	248.0	241.1	234.3	228.8
57.5°	256.9	252.5	248.2	243.8	239.4	233.9	227.1	220.4	213.7	206.9	201.4
60°	237.6	233.4	229.2	225.0	220.8	215.3	208.6	201.8	195.1	188.4	182.9
62.5°	220.2	215.8	211.4	207.1	202.7	197.1	190.2	183.3	176.4	169.5	164.4
65°	193.1	188.6	184.1	179.6	175.0	169.4	162.7	155.9	149.2	142.5	138.0
67.5°	165.0	160.7	156.3	152.0	147.7	142.4	136.1	129.9	123.6	117.4	113.5
70°	147.2	142.8	138.4	134.0	129.5	124.3	118.3	112.3	106.3	100.3	96.9
72.5°	128.3	124.3	120.3	116.3	112.3	107.5	101.8	96.1	90.5	84.8	81.9
75°	102.7	98.8	94.9	91.0	87.1	82.7	77.8	72.8	67.9	63.0	60.5
77.5°	76.8	73.5	70.2	66.9	63.6	59.9	55.9	51.9	47.9	43.9	42.5
80°	60.1	57.1	54.0	51.0	47.9	44.8	41.7	38.5	35.3	32.2	31.9
82.5°	45.7	42.9	40.1	37.3	34.5	32.2	30.4	28.6	26.8	25.0	24.8
85°	25.6	23.5	21.4	19.2	17.1	15.9	15.6	15.3	15.0	14.7	14.5
87.5°	9.3	9.1	9.0	8.8	8.6	8.7	8.9	9.2	9.5	9.8	9.9
90°	3.0	5.5	8.0	10.5	12.9	15.1	16.9	18.7	20.5	22.3	23.6
92.5°	21.7	24.5	27.4	30.2	33.0	35.1	36.3	37.6	38.9	40.1	40.9
95°	60.8	62.8	64.8	66.9	68.9	70.7	72.3	73.8	75.4	77.0	77.7
97.5°	106.2	107.8	109.4	111.0	112.7	114.4	116.2	118.1	119.9	121.8	122.6
100°	141.8	142.7	143.6	144.5	145.4	146.9	148.9	150.9	153.0	155.0	155.4
102.5°	179.1	179.5	179.8	180.2	180.5	181.6	183.5	185.3	187.2	189.0	189.7
105°	236.0	236.3	236.5	236.7	236.9	237.5	238.4	239.3	240.2	241.1	241.8
107.5°	295.8	296.1	296.3	296.6	296.9	297.1	297.2	297.4	297.5	297.6	298.3
110°	336.3	336.8	337.2	337.7	338.1	338.2	338.0	337.8	337.6	337.3	336.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	378.5	378.6	378.7	378.7	378.8	378.7	378.3	377.9	377.5	377.1	377.0
115°	441.7	441.7	441.7	441.7	441.7	441.5	441.0	440.6	440.1	439.7	439.4
117.5°	501.3	501.4	501.6	501.8	502.0	501.9	501.6	501.3	501.0	500.6	499.9
120°	541.0	541.9	542.8	543.7	544.6	544.7	544.0	543.3	542.7	542.0	540.9
122.5°	582.3	582.7	583.0	583.4	583.7	583.8	583.4	583.1	582.8	582.5	581.7
125°	643.3	643.3	643.3	643.3	643.3	643.2	642.9	642.7	642.5	642.3	641.8
127.5°	698.6	699.3	699.9	700.6	701.3	701.5	701.1	700.7	700.4	700.0	699.6
130°	737.5	738.2	738.8	739.5	740.2	740.5	740.5	740.5	740.5	740.5	740.1
132.5°	777.2	777.7	778.2	778.7	779.2	779.3	779.2	779.0	778.8	778.6	778.2
135°	829.7	831.0	832.4	833.7	835.1	835.8	835.8	835.8	835.8	835.8	835.3
137.5°	886.8	887.4	888.1	888.7	889.3	889.8	890.2	890.6	890.9	891.3	890.7
140°	924.9	925.4	925.8	926.3	926.7	926.9	926.9	926.9	926.9	926.9	926.7
142.5°	959.8	960.2	960.7	961.1	961.6	961.7	961.5	961.3	961.2	961.0	960.9
145°	1008.0	1008.9	1009.8	1010.7	1011.6	1012.1	1012.4	1012.6	1012.8	1013.0	1012.8
147.5°	1055.8	1056.9	1058.0	1059.0	1060.1	1060.6	1060.4	1060.2	1060.0	1059.8	1059.7
150°	1085.0	1085.9	1086.8	1087.7	1088.6	1089.0	1089.0	1089.0	1089.0	1089.0	1089.0
152.5°	1112.5	1113.1	1113.6	1114.1	1114.7	1115.0	1115.2	1115.4	1115.6	1115.8	1116.3
155°	1154.9	1154.9	1154.9	1154.9	1154.9	1154.8	1154.5	1154.3	1154.1	1153.9	1154.8
157.5°	1190.5	1190.1	1189.7	1189.3	1188.9	1188.7	1188.6	1188.6	1188.5	1188.5	1189.2
160°	1211.6	1211.4	1211.1	1210.9	1210.7	1210.5	1210.2	1210.0	1209.8	1209.6	1210.2
162.5°	1231.0	1230.5	1229.9	1229.3	1228.7	1228.3	1228.1	1227.9	1227.6	1227.4	1228.6
165°	1257.2	1256.5	1255.8	1255.2	1254.5	1253.9	1253.5	1253.0	1252.6	1252.1	1253.5
167.5°	1277.2	1276.3	1275.4	1274.4	1273.5	1273.0	1273.1	1273.1	1273.1	1273.2	1274.5
170°	1288.6	1287.5	1286.3	1285.2	1284.1	1283.6	1283.9	1284.1	1284.3	1284.5	1285.9
172.5°	1296.7	1295.7	1294.8	1293.9	1292.9	1292.5	1292.5	1292.6	1292.6	1292.6	1294.2
175°	1307.8	1306.7	1305.6	1304.5	1303.3	1302.7	1302.4	1302.2	1302.0	1301.8	1303.3
177.5°	1311.5	1310.6	1309.7	1308.8	1307.9	1307.4	1307.4	1307.4	1307.4	1307.4	1308.7
180°	1309.9	1309.9	1309.9	1309.9	1309.9	1309.9	1309.9	1309.9	1309.9	1309.9	1309.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2
2.5°	615.9	616.8	617.7	618.1	618.0	618.0	617.9	617.8
5°	611.8	612.8	613.9	614.3	614.1	613.9	613.6	613.4
7.5°	603.6	604.3	605.0	605.1	604.8	604.5	604.1	603.8
10°	596.3	596.7	597.1	597.1	596.7	596.3	595.9	595.5
12.5°	587.2	587.5	587.8	587.6	587.0	586.4	585.8	585.2
15°	571.4	571.2	570.9	570.5	569.7	569.0	568.3	567.5
17.5°	552.2	551.7	551.1	550.2	549.1	548.0	546.9	545.8
20°	538.9	538.0	537.2	536.1	534.7	533.3	532.0	530.6
22.5°	524.0	522.7	521.5	520.3	519.2	518.1	517.0	515.8
25°	500.0	498.3	496.5	495.1	494.0	492.9	491.9	490.8
27.5°	475.6	473.4	471.2	469.4	467.8	466.3	464.8	463.3
30°	458.1	455.5	452.9	450.7	449.0	447.4	445.7	444.0
32.5°	440.3	437.2	434.2	431.8	430.2	428.6	427.0	425.4
35°	413.6	410.1	406.5	403.8	401.9	400.0	398.1	396.2
37.5°	385.1	381.1	377.1	374.1	372.2	370.3	368.4	366.5
40°	366.0	361.6	357.2	354.1	352.2	350.3	348.4	346.5
42.5°	347.3	342.8	338.3	335.1	333.1	331.1	329.1	327.2
45°	318.7	313.5	308.3	304.8	302.9	301.0	299.1	297.3
47.5°	289.8	284.4	279.1	275.4	273.3	271.2	269.1	267.1
50°	270.6	265.4	260.1	256.5	254.5	252.5	250.5	248.5
52.5°	251.5	246.2	240.9	237.1	235.1	233.0	230.9	228.8
55°	223.4	217.9	212.4	208.7	206.7	204.7	202.7	200.7
57.5°	195.8	190.3	184.7	181.2	179.7	178.2	176.6	175.1
60°	177.4	172.0	166.5	162.9	161.2	159.6	157.9	156.2
62.5°	159.4	154.3	149.3	146.1	144.7	143.4	142.0	140.7
65°	133.4	128.9	124.4	121.5	120.2	119.0	117.7	116.4
67.5°	109.6	105.7	101.8	99.2	97.8	96.4	95.0	93.6
70°	93.4	89.9	86.5	84.2	83.1	82.1	81.0	80.0
72.5°	78.9	75.9	73.0	71.0	70.0	69.1	68.1	67.1
75°	58.1	55.7	53.3	51.8	51.1	50.5	49.9	49.2
77.5°	41.1	39.7	38.3	37.5	37.3	37.1	36.9	36.7
80°	31.6	31.2	30.9	30.7	30.6	30.5	30.4	30.3
82.5°	24.5	24.3	24.1	23.9	23.8	23.7	23.6	23.5
85°	14.3	14.0	13.8	13.7	13.7	13.7	13.7	13.7
87.5°	10.1	10.3	10.5	10.7	10.9	11.0	11.2	11.4
90°	25.0	26.3	27.7	28.6	29.0	29.5	29.9	30.4
92.5°	41.7	42.5	43.4	43.9	44.2	44.4	44.7	45.0
95°	78.3	79.0	79.7	80.0	80.0	80.0	80.0	80.0
97.5°	123.4	124.2	125.0	125.4	125.4	125.4	125.4	125.4
100°	155.9	156.3	156.8	157.0	157.0	157.0	157.0	157.0
102.5°	190.3	190.9	191.6	192.0	192.1	192.3	192.5	192.7
105°	242.5	243.1	243.8	244.5	245.2	245.8	246.5	247.2
107.5°	298.9	299.5	300.2	300.4	300.4	300.4	300.3	300.3
110°	336.4	336.0	335.5	335.7	336.3	337.0	337.7	338.4





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CATALOG NUMBER: S124RDIW-S350D1050U835-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	376.9	376.8	376.7	376.7	376.9	377.0	377.1	377.3
115°	439.2	439.0	438.8	438.5	438.3	438.1	437.9	437.6
117.5°	499.1	498.3	497.6	497.0	496.5	496.1	495.6	495.2
120°	539.7	538.6	537.5	537.1	537.6	538.0	538.5	538.9
122.5°	581.0	580.2	579.4	578.6	577.8	577.0	576.2	575.4
125°	641.4	640.9	640.5	640.0	639.6	639.1	638.7	638.2
127.5°	699.1	698.7	698.2	697.8	697.4	697.1	696.7	696.4
130°	739.6	739.2	738.7	738.1	737.2	736.3	735.4	734.5
132.5°	777.7	777.3	776.8	776.4	776.1	775.7	775.3	775.0
135°	834.9	834.4	834.0	833.4	832.7	832.0	831.4	830.7
137.5°	890.1	889.5	888.9	888.7	888.8	889.0	889.1	889.2
140°	926.5	926.3	926.0	925.8	925.6	925.4	925.1	924.9
142.5°	960.9	960.8	960.8	960.7	960.7	960.7	960.6	960.6
145°	1012.6	1012.4	1012.1	1011.7	1011.0	1010.3	1009.7	1009.0
147.5°	1059.5	1059.3	1059.1	1058.9	1058.7	1058.5	1058.2	1058.0
150°	1089.0	1089.0	1089.0	1088.9	1088.7	1088.5	1088.2	1088.0
152.5°	1116.8	1117.4	1117.9	1117.9	1117.3	1116.7	1116.1	1115.6
155°	1155.7	1156.6	1157.5	1157.5	1156.6	1155.7	1154.8	1153.9
157.5°	1189.9	1190.5	1191.2	1191.2	1190.4	1189.6	1188.9	1188.1
160°	1210.9	1211.6	1212.3	1212.0	1210.9	1209.8	1208.7	1207.5
162.5°	1229.8	1231.0	1232.3	1232.3	1231.2	1230.1	1228.9	1227.8
165°	1254.8	1256.2	1257.5	1257.7	1256.8	1255.9	1255.0	1254.1
167.5°	1275.9	1277.2	1278.6	1278.6	1277.2	1275.8	1274.4	1273.0
170°	1287.2	1288.6	1289.9	1289.8	1288.3	1286.7	1285.1	1283.5
172.5°	1295.7	1297.2	1298.8	1298.7	1297.2	1295.6	1294.0	1292.4
175°	1304.9	1306.5	1308.1	1308.1	1306.5	1304.9	1303.3	1301.8
177.5°	1310.0	1311.2	1312.5	1312.4	1310.9	1309.5	1308.1	1306.6
180°	1309.9	1309.9	1309.9	1309.9	1309.9	1309.9	1309.9	1309.9

(END OF REPORT)