

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: P332893-840

Luminaire Tested: **S124RDIP-S350D1205U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332893-840
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: S124RDIP-S350D1205U840-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1205 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5655.8 lumens
Efficiency: N/A
Efficacy: 134.0 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

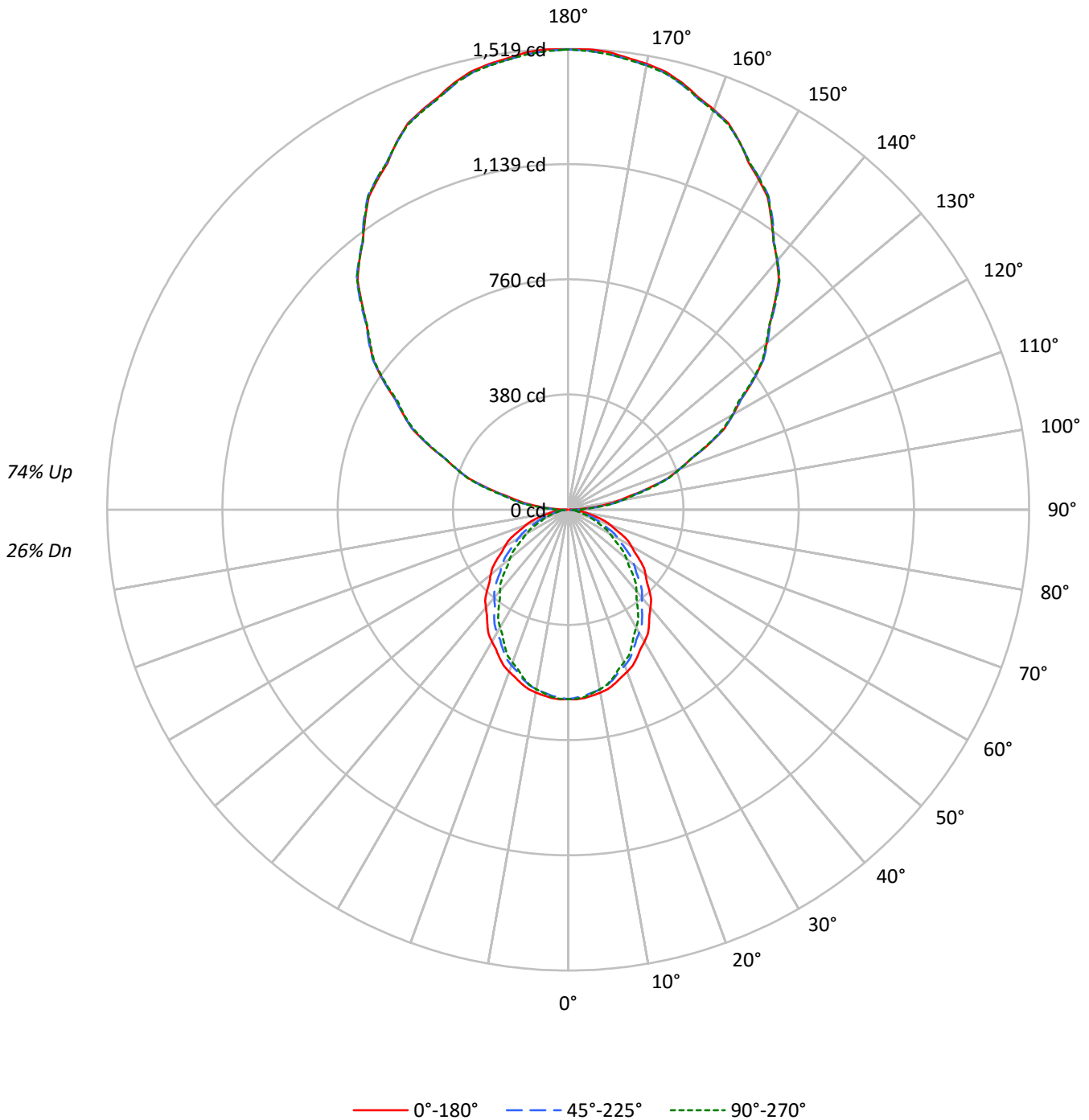
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34	26
1	92	88	85	81	82	79	76	73	61	59	57	45	44	43	30	29	29	22
2	84	77	71	67	75	69	64	60	54	50	48	40	37	36	26	25	24	18
3	77	68	61	55	68	61	55	50	47	43	40	35	32	30	24	22	21	16
4	70	60	53	47	62	54	47	43	42	38	34	31	28	26	21	19	18	14
5	64	53	46	40	57	48	41	36	38	33	29	28	25	22	19	17	16	12
6	59	48	40	35	53	43	36	31	34	29	25	25	22	20	17	15	14	11
7	55	43	35	30	49	39	32	28	31	26	22	23	20	17	16	14	12	9
8	51	39	32	26	45	35	29	24	28	23	20	21	18	15	14	12	11	8
9	47	35	28	23	42	32	26	21	25	21	18	19	16	14	13	11	10	8
10	44	32	25	21	39	29	23	19	23	19	16	18	15	12	12	10	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5040	5040	5040
5°	5051	4989	5020
10°	5019	4930	4930
15°	4962	4826	4790
20°	4883	4689	4603
25°	4782	4530	4415
30°	4683	4363	4180
35°	4574	4188	3943
40°	4443	3990	3687
45°	4322	3793	3427
50°	4185	3567	3152
55°	4037	3330	2853
60°	3873	3073	2546
65°	3725	2749	2245
70°	3510	2391	1907
75°	3235	1984	1550
80°	2822	1511	1423
85°	2399	1371	1278



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.6	1.0
10°-20°	163.5	2.9
20°-30°	236.1	4.2
30°-40°	267.7	4.7
40°-50°	258.5	4.6
50°-60°	214.9	3.8
60°-70°	148.4	2.6
70°-80°	75.2	1.3
80°-90°	23.8	0.4
90°-100°	100.1	1.8
100°-110°	296.4	5.2
110°-120°	503.1	8.9
120°-130°	663.4	11.7
130°-140°	745.0	13.2
140°-150°	732.1	12.9
150°-160°	615.7	10.9
160°-170°	409.7	7.2
170°-180°	143.5	2.5
0°-30°	458.3	8.1
0°-40°	726.0	12.8
0°-60°	1199.4	21.2
0°-90°	1446.9	25.6
90°-120°	899.6	15.9
90°-150°	3040.1	53.8
90°-180°	4209.0	74.4
0°-180°	5655.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	624	624	624	624	624	
5°	623	621	616	620	620	59
15°	594	589	577	576	573	167
25°	537	528	509	501	496	247
35°	464	448	425	409	400	290
45°	379	360	332	310	300	292
55°	287	267	237	213	203	256
65°	195	174	144	124	118	193
75°	104	86	64	53	50	110
85°	26	17	15	14	14	29
90°	4	16	26	33	35	6
95°	70	81	89	92	93	78
105°	273	275	279	283	286	290
115°	512	511	509	508	507	504
125°	745	745	744	741	739	664
135°	961	968	968	966	962	743
145°	1167	1172	1173	1172	1169	730
155°	1338	1337	1336	1340	1336	615
165°	1456	1453	1450	1456	1452	410
175°	1515	1509	1508	1515	1508	144
180°	1517	1517	1517	1517	1517	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	624.3	624.3	624.3	624.3	624.3	624.3	624.3	624.3	624.3	624.3	624.3
2.5°	625.8	625.4	625.1	624.8	624.4	623.8	622.9	622.0	621.0	620.1	621.0
5°	623.3	622.9	622.5	622.1	621.6	620.8	619.5	618.2	616.9	615.7	616.7
7.5°	617.6	617.2	616.8	616.3	615.9	614.8	613.2	611.5	609.9	608.2	608.8
10°	612.3	611.8	611.3	610.8	610.2	608.9	607.0	605.1	603.2	601.4	601.8
12.5°	605.4	604.8	604.2	603.6	603.0	601.6	599.3	597.0	594.8	592.5	592.8
15°	593.7	592.7	591.8	590.8	589.9	588.0	585.4	582.7	580.1	577.4	577.2
17.5°	579.5	578.0	576.6	575.3	573.9	571.6	568.5	565.2	562.1	558.9	558.3
20°	568.4	566.9	565.6	564.2	562.8	560.4	556.7	553.1	549.5	545.8	545.0
22.5°	556.1	554.5	553.0	551.5	549.9	547.1	543.3	539.5	535.6	531.7	530.5
25°	536.8	534.9	533.0	531.1	529.2	526.0	521.7	517.4	512.9	508.6	506.8
27.5°	516.5	514.1	511.7	509.4	507.0	503.4	498.8	494.1	489.5	484.8	482.5
30°	502.4	499.7	497.1	494.4	491.8	488.0	482.9	478.0	472.9	468.0	465.3
32.5°	487.5	484.4	481.5	478.5	475.4	471.4	466.3	461.1	456.0	450.8	447.7
35°	464.1	460.7	457.4	453.9	450.5	446.2	440.9	435.6	430.3	425.0	421.3
37.5°	439.2	435.7	432.2	428.7	425.2	420.5	414.5	408.7	402.8	397.0	392.9
40°	421.6	418.1	414.5	411.1	407.6	402.8	396.8	390.7	384.7	378.6	374.2
42.5°	404.8	401.1	397.4	393.7	390.1	385.1	378.8	372.4	366.2	359.8	355.3
45°	378.6	374.7	370.7	366.8	362.8	357.7	351.3	345.0	338.6	332.2	327.0
47.5°	351.5	347.5	343.5	339.3	335.3	329.9	323.4	316.7	310.0	303.5	298.0
50°	333.2	329.0	324.9	320.7	316.6	311.1	304.4	297.5	290.7	284.0	278.6
52.5°	314.5	310.3	306.3	302.3	298.2	292.7	285.7	278.7	271.8	264.8	259.4
55°	286.8	282.6	278.3	274.1	269.8	264.2	257.3	250.4	243.5	236.6	231.1
57.5°	259.4	255.0	250.6	246.2	241.8	236.2	229.3	222.6	215.8	208.9	203.4
60°	239.9	235.7	231.5	227.2	223.0	217.4	210.7	203.8	197.0	190.3	184.7
62.5°	222.4	217.9	213.5	209.1	204.7	199.0	192.1	185.1	178.1	171.2	166.0
65°	195.0	190.5	185.9	181.4	176.7	171.1	164.3	157.4	150.7	143.9	139.4
67.5°	166.6	162.3	157.8	153.5	149.2	143.8	137.4	131.2	124.8	118.6	114.6
70°	148.7	144.2	139.8	135.3	130.8	125.5	119.5	113.4	107.3	101.3	97.9
72.5°	129.6	125.5	121.5	117.4	113.4	108.6	102.8	97.0	91.4	85.6	82.7
75°	103.7	99.8	95.8	91.9	88.0	83.5	78.6	73.5	68.6	63.6	61.1
77.5°	77.6	74.2	70.9	67.6	64.2	60.5	56.5	52.4	48.4	44.3	42.9
80°	60.7	57.7	54.5	51.5	48.4	45.2	42.1	38.9	35.6	32.5	32.2
82.5°	46.2	43.3	40.5	37.7	34.8	32.5	30.7	28.9	27.1	25.2	25.0
85°	25.9	23.7	21.6	19.4	17.3	16.1	15.8	15.5	15.1	14.8	14.6
87.5°	9.5	9.4	9.3	9.2	9.1	9.2	9.5	9.9	10.2	10.5	10.7
90°	3.5	6.4	9.3	12.1	14.9	17.5	19.6	21.6	23.7	25.9	27.4
92.5°	25.1	28.4	31.7	34.9	38.3	40.6	42.1	43.5	45.0	46.5	47.4
95°	70.4	72.7	75.1	77.5	79.8	81.9	83.7	85.5	87.4	89.2	90.0
97.5°	123.0	124.8	126.7	128.6	130.5	132.5	134.6	136.7	138.9	141.0	142.0
100°	164.3	165.3	166.3	167.3	168.4	170.2	172.5	174.8	177.1	179.6	180.1
102.5°	207.4	207.8	208.2	208.6	209.1	210.4	212.5	214.7	216.8	218.9	219.6
105°	273.4	273.7	273.9	274.2	274.4	275.1	276.1	277.1	278.2	279.2	280.0
107.5°	342.5	343.0	343.3	343.6	343.9	344.1	344.3	344.4	344.6	344.7	345.5
110°	389.5	390.0	390.5	391.1	391.6	391.7	391.5	391.2	390.9	390.7	390.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	438.3	438.5	438.6	438.7	438.8	438.6	438.1	437.7	437.2	436.7	436.6
115°	511.5	511.5	511.5	511.5	511.5	511.3	510.8	510.3	509.7	509.2	509.0
117.5°	580.6	580.8	581.0	581.2	581.4	581.3	580.9	580.6	580.2	579.9	579.0
120°	626.5	627.5	628.6	629.7	630.7	630.9	630.1	629.2	628.4	627.7	626.4
122.5°	674.4	674.8	675.2	675.6	676.1	676.1	675.7	675.4	675.0	674.6	673.8
125°	745.0	745.0	745.0	745.0	745.0	744.9	744.7	744.4	744.1	743.9	743.4
127.5°	809.1	809.9	810.6	811.4	812.2	812.4	811.9	811.5	811.1	810.7	810.2
130°	854.1	855.0	855.7	856.5	857.3	857.7	857.7	857.7	857.7	857.7	857.2
132.5°	900.1	900.7	901.3	901.8	902.4	902.6	902.4	902.2	902.0	901.8	901.2
135°	960.9	962.5	964.0	965.6	967.1	968.0	968.0	968.0	968.0	968.0	967.5
137.5°	1027.0	1027.8	1028.5	1029.3	1030.0	1030.6	1031.0	1031.4	1031.8	1032.2	1031.6
140°	1071.2	1071.7	1072.3	1072.8	1073.3	1073.5	1073.5	1073.5	1073.5	1073.5	1073.3
142.5°	1111.6	1112.1	1112.6	1113.1	1113.7	1113.8	1113.6	1113.4	1113.2	1113.0	1112.9
145°	1167.4	1168.4	1169.5	1170.5	1171.5	1172.3	1172.5	1172.8	1173.0	1173.3	1173.0
147.5°	1222.7	1224.1	1225.3	1226.5	1227.8	1228.3	1228.1	1227.9	1227.7	1227.5	1227.3
150°	1256.6	1257.6	1258.7	1259.7	1260.7	1261.2	1261.2	1261.2	1261.2	1261.2	1261.2
152.5°	1288.5	1289.1	1289.7	1290.3	1291.0	1291.4	1291.6	1291.8	1292.0	1292.2	1292.8
155°	1337.5	1337.5	1337.5	1337.5	1337.5	1337.4	1337.2	1336.9	1336.6	1336.4	1337.4
157.5°	1378.8	1378.4	1377.9	1377.5	1377.0	1376.6	1376.6	1376.5	1376.5	1376.4	1377.3
160°	1403.2	1403.0	1402.7	1402.4	1402.2	1401.9	1401.7	1401.4	1401.1	1400.9	1401.7
162.5°	1425.7	1425.0	1424.4	1423.7	1423.0	1422.6	1422.3	1422.1	1421.8	1421.5	1422.9
165°	1456.0	1455.2	1454.4	1453.7	1452.9	1452.2	1451.7	1451.2	1450.7	1450.2	1451.7
167.5°	1479.3	1478.1	1477.0	1475.9	1474.9	1474.3	1474.4	1474.4	1474.5	1474.5	1476.1
170°	1492.4	1491.1	1489.8	1488.4	1487.1	1486.6	1486.9	1487.1	1487.4	1487.7	1489.2
172.5°	1501.8	1500.7	1499.5	1498.4	1497.4	1496.8	1496.9	1497.0	1497.0	1497.1	1498.8
175°	1514.7	1513.4	1512.1	1510.8	1509.4	1508.6	1508.4	1508.1	1507.9	1507.6	1509.4
177.5°	1518.9	1517.8	1516.8	1515.8	1514.7	1514.2	1514.2	1514.2	1514.2	1514.2	1515.7
180°	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	624.3	624.3	624.3	624.3	624.3	624.3	624.3	624.3
2.5°	622.0	622.9	623.8	624.2	624.1	624.1	624.0	623.9
5°	617.8	618.8	620.0	620.4	620.2	620.0	619.7	619.5
7.5°	609.6	610.3	611.0	611.1	610.8	610.5	610.1	609.8
10°	602.2	602.6	603.0	603.0	602.6	602.2	601.8	601.4
12.5°	593.0	593.3	593.6	593.4	592.8	592.2	591.6	591.0
15°	577.0	576.8	576.5	576.1	575.3	574.6	573.9	573.1
17.5°	557.6	557.1	556.5	555.6	554.5	553.4	552.3	551.2
20°	544.2	543.3	542.5	541.4	540.0	538.6	537.2	535.8
22.5°	529.2	527.9	526.6	525.4	524.3	523.2	522.1	520.9
25°	504.9	503.2	501.4	500.0	498.9	497.8	496.8	495.6
27.5°	480.3	478.1	475.8	474.0	472.4	470.9	469.4	467.9
30°	462.6	460.0	457.4	455.1	453.4	451.8	450.1	448.4
32.5°	444.6	441.5	438.5	436.1	434.4	432.8	431.2	429.6
35°	417.7	414.1	410.5	407.8	405.9	403.9	402.0	400.1
37.5°	388.9	384.9	380.8	377.8	375.9	374.0	372.0	370.1
40°	369.6	365.2	360.7	357.6	355.7	353.8	351.8	349.9
42.5°	350.7	346.2	341.6	338.4	336.4	334.4	332.3	330.4
45°	321.8	316.6	311.3	307.8	305.9	304.0	302.1	300.2
47.5°	292.7	287.2	281.9	278.1	276.0	273.9	271.8	269.7
50°	273.3	268.0	262.7	259.0	257.0	255.0	253.0	251.0
52.5°	254.0	248.6	243.3	239.4	237.4	235.3	233.2	231.1
55°	225.6	220.0	214.5	210.8	208.7	206.7	204.7	202.7
57.5°	197.7	192.2	186.5	183.0	181.5	180.0	178.3	176.8
60°	179.2	173.7	168.1	164.5	162.8	161.2	159.5	157.7
62.5°	161.0	155.8	150.8	147.5	146.1	144.8	143.4	142.1
65°	134.7	130.2	125.6	122.7	121.4	120.2	118.9	117.5
67.5°	110.7	106.7	102.8	100.2	98.8	97.4	95.9	94.5
70°	94.3	90.8	87.4	85.0	83.9	82.9	81.8	80.8
72.5°	79.7	76.6	73.7	71.7	70.7	69.8	68.8	67.8
75°	58.7	56.2	53.8	52.3	51.6	51.0	50.4	49.7
77.5°	41.5	40.1	38.7	37.9	37.7	37.5	37.3	37.1
80°	31.9	31.5	31.2	31.0	30.9	30.8	30.7	30.6
82.5°	24.7	24.5	24.3	24.1	24.0	23.9	23.8	23.7
85°	14.4	14.1	13.9	13.8	13.8	13.8	13.8	13.8
87.5°	11.0	11.2	11.4	11.6	11.8	12.0	12.2	12.4
90°	29.0	30.5	32.1	33.1	33.6	34.1	34.6	35.2
92.5°	48.4	49.3	50.2	50.8	51.2	51.5	51.8	52.1
95°	90.7	91.5	92.3	92.7	92.7	92.7	92.7	92.7
97.5°	142.9	143.8	144.8	145.2	145.2	145.2	145.2	145.2
100°	180.6	181.1	181.6	181.9	181.9	181.9	181.9	181.9
102.5°	220.4	221.2	221.9	222.3	222.6	222.8	223.0	223.2
105°	280.8	281.6	282.4	283.2	284.0	284.7	285.5	286.3
107.5°	346.2	346.9	347.6	348.0	347.9	347.9	347.8	347.8
110°	389.6	389.1	388.6	388.7	389.5	390.3	391.1	391.8



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CATALOG NUMBER: S124RDIP-S350D1205U840-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	436.5	436.4	436.3	436.3	436.5	436.6	436.8	437.0
115°	508.7	508.4	508.2	507.9	507.7	507.4	507.2	506.9
117.5°	578.0	577.1	576.2	575.6	575.0	574.5	574.0	573.5
120°	625.1	623.8	622.5	622.1	622.6	623.1	623.7	624.2
122.5°	672.9	672.0	671.1	670.1	669.2	668.3	667.3	666.4
125°	742.8	742.3	741.7	741.2	740.7	740.2	739.6	739.1
127.5°	809.7	809.2	808.6	808.2	807.8	807.3	806.9	806.5
130°	856.6	856.1	855.6	854.7	853.7	852.7	851.6	850.6
132.5°	900.7	900.2	899.7	899.2	898.8	898.4	898.0	897.6
135°	966.9	966.3	965.8	965.2	964.4	963.6	962.8	962.1
137.5°	1030.9	1030.2	1029.6	1029.3	1029.5	1029.6	1029.8	1029.9
140°	1073.0	1072.8	1072.5	1072.3	1072.0	1071.7	1071.5	1071.2
142.5°	1112.9	1112.8	1112.8	1112.7	1112.7	1112.6	1112.6	1112.5
145°	1172.8	1172.5	1172.3	1171.6	1170.9	1170.1	1169.3	1168.6
147.5°	1227.1	1226.9	1226.6	1226.4	1226.2	1225.9	1225.6	1225.4
150°	1261.2	1261.2	1261.2	1261.1	1260.8	1260.6	1260.3	1260.1
152.5°	1293.4	1294.1	1294.7	1294.7	1294.0	1293.3	1292.6	1292.0
155°	1338.5	1339.5	1340.5	1340.5	1339.5	1338.5	1337.4	1336.4
157.5°	1378.1	1378.8	1379.6	1379.6	1378.7	1377.8	1376.8	1376.0
160°	1402.4	1403.2	1404.0	1403.7	1402.4	1401.1	1399.9	1398.6
162.5°	1424.3	1425.7	1427.1	1427.2	1425.9	1424.6	1423.3	1422.0
165°	1453.3	1454.8	1456.4	1456.6	1455.6	1454.6	1453.5	1452.5
167.5°	1477.6	1479.3	1480.8	1480.8	1479.1	1477.5	1475.9	1474.3
170°	1490.9	1492.4	1494.0	1493.8	1492.0	1490.2	1488.3	1486.5
172.5°	1500.7	1502.4	1504.2	1504.2	1502.3	1500.5	1498.6	1496.8
175°	1511.3	1513.1	1514.9	1514.9	1513.1	1511.3	1509.4	1507.6
177.5°	1517.1	1518.6	1520.0	1519.9	1518.2	1516.6	1514.9	1513.3
180°	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0

(END OF REPORT)