

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: P332893-830

Luminaire Tested: **S124RDIP-S350D1205U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332893-830
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-S350D1205U830-4F0-1E-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: 5278.7 lumens
Efficiency: N/A
Efficacy: 125.1 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

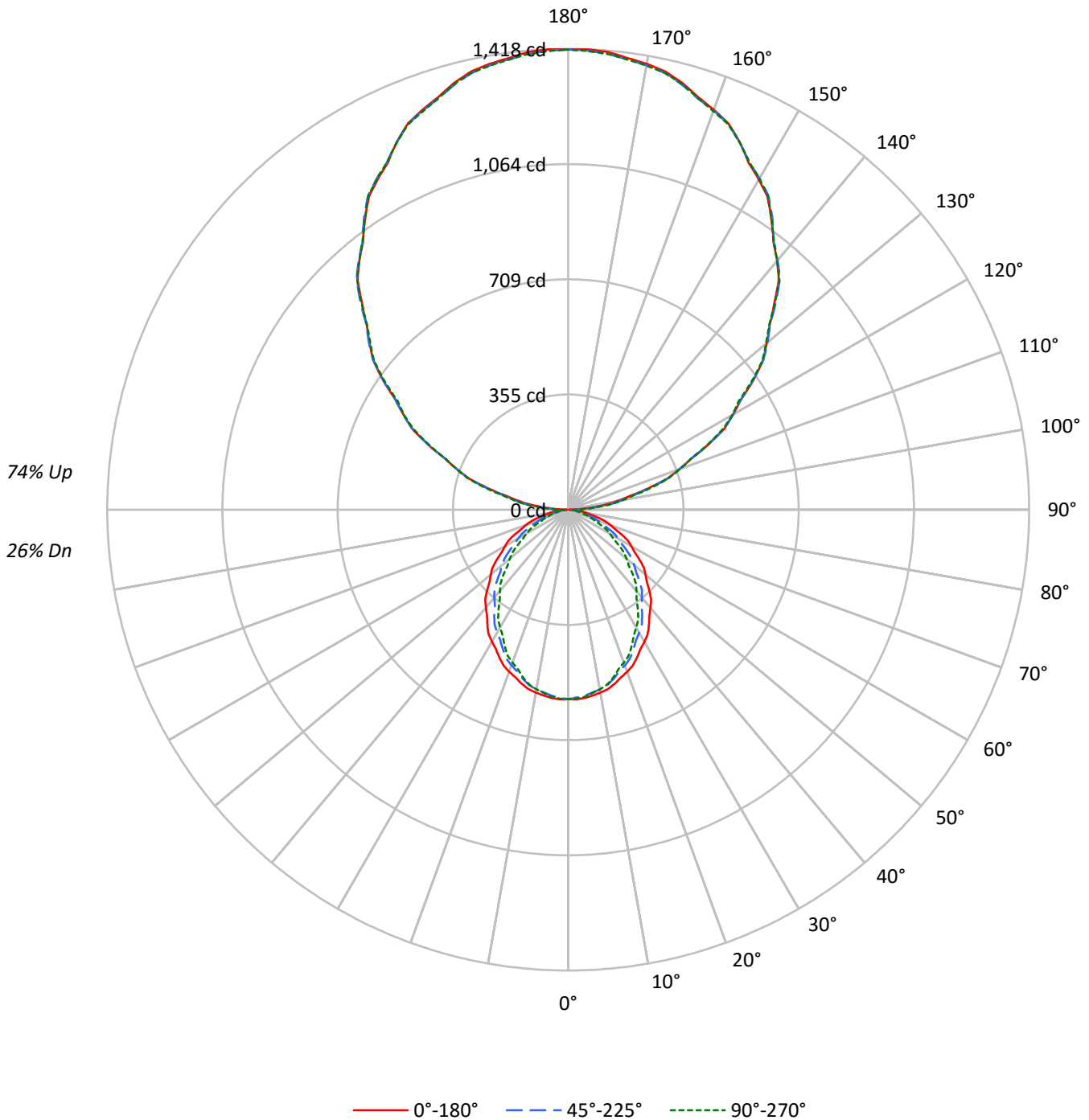
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	4704	4704	4704
5°	4714	4657	4686
10°	4685	4601	4601
15°	4631	4504	4471
20°	4558	4376	4296
25°	4464	4228	4121
30°	4371	4072	3901
35°	4269	3909	3680
40°	4147	3724	3442
45°	4035	3540	3199
50°	3905	3328	2941
55°	3768	3108	2663
60°	3615	2868	2377
65°	3477	2565	2096
70°	3274	2231	1780
75°	3019	1853	1447
80°	2631	1409	1330
85°	2232	1288	1195



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.7	1.0
10°-20°	152.6	2.9
20°-30°	220.4	4.2
30°-40°	249.8	4.7
40°-50°	241.2	4.6
50°-60°	200.6	3.8
60°-70°	138.5	2.6
70°-80°	70.2	1.3
80°-90°	22.2	0.4
90°-100°	93.4	1.8
100°-110°	276.7	5.2
110°-120°	469.6	8.9
120°-130°	619.1	11.7
130°-140°	695.3	13.2
140°-150°	683.3	12.9
150°-160°	574.7	10.9
160°-170°	382.4	7.2
170°-180°	133.9	2.5
0°-30°	427.8	8.1
0°-40°	677.6	12.8
0°-60°	1119.4	21.2
0°-90°	1350.4	25.6
90°-120°	839.6	15.9
90°-150°	2837.4	53.8
90°-180°	3928.0	74.4
0°-180°	5278.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	583	583	583	583	583	
5°	582	580	575	579	578	55
15°	554	550	539	538	535	156
25°	501	492	475	467	463	231
35°	433	418	397	382	373	271
45°	353	336	310	289	280	272
55°	268	249	221	198	189	239
65°	182	162	134	116	110	180
75°	97	80	59	50	46	102
85°	24	16	14	13	13	27
90°	3	15	24	30	33	5
95°	66	75	83	86	86	73
105°	255	256	261	264	267	271
115°	477	477	475	474	473	471
125°	695	695	694	692	690	620
135°	897	903	903	901	898	694
145°	1090	1094	1095	1094	1091	682
155°	1248	1248	1247	1251	1247	574
165°	1359	1356	1354	1359	1356	383
175°	1414	1408	1407	1414	1407	134
180°	1416	1416	1416	1416	1416	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7
2.5°	584.1	583.7	583.4	583.2	582.8	582.2	581.4	580.5	579.6	578.7	579.6
5°	581.7	581.4	581.0	580.6	580.1	579.4	578.2	577.0	575.8	574.7	575.6
7.5°	576.5	576.1	575.7	575.2	574.9	573.8	572.3	570.7	569.2	567.7	568.3
10°	571.5	571.0	570.5	570.0	569.5	568.4	566.6	564.8	563.0	561.3	561.7
12.5°	565.1	564.5	563.9	563.4	562.8	561.5	559.3	557.2	555.2	553.0	553.3
15°	554.1	553.2	552.3	551.4	550.5	548.8	546.4	543.8	541.4	538.9	538.8
17.5°	540.8	539.5	538.2	537.0	535.6	533.5	530.6	527.5	524.6	521.6	521.0
20°	530.5	529.1	527.9	526.6	525.3	523.0	519.6	516.2	512.8	509.4	508.7
22.5°	519.1	517.6	516.1	514.7	513.2	510.7	507.1	503.5	499.9	496.2	495.1
25°	501.1	499.3	497.5	495.7	493.9	491.0	486.9	482.9	478.7	474.7	473.0
27.5°	482.1	479.8	477.6	475.4	473.2	469.9	465.5	461.2	456.9	452.5	450.3
30°	468.9	466.4	463.9	461.5	459.0	455.4	450.7	446.1	441.4	436.8	434.3
32.5°	455.0	452.1	449.4	446.6	443.7	440.0	435.2	430.4	425.6	420.8	417.8
35°	433.2	430.0	426.9	423.7	420.5	416.4	411.5	406.5	401.6	396.6	393.2
37.5°	409.9	406.6	403.4	400.1	396.8	392.5	386.9	381.4	376.0	370.5	366.7
40°	393.5	390.2	386.9	383.7	380.4	376.0	370.3	364.7	359.0	353.4	349.2
42.5°	377.8	374.4	370.9	367.5	364.1	359.4	353.5	347.6	341.8	335.8	331.6
45°	353.4	349.7	346.0	342.3	338.7	333.8	327.9	322.0	316.0	310.1	305.2
47.5°	328.1	324.3	320.6	316.7	312.9	307.9	301.8	295.6	289.4	283.2	278.1
50°	310.9	307.1	303.2	299.4	295.5	290.4	284.1	277.7	271.4	265.0	260.0
52.5°	293.5	289.6	285.9	282.1	278.3	273.1	266.6	260.1	253.6	247.1	242.1
55°	267.7	263.7	259.8	255.8	251.8	246.6	240.2	233.8	227.2	220.8	215.7
57.5°	242.1	238.0	233.9	229.8	225.6	220.5	214.1	207.7	201.4	195.0	189.8
60°	223.9	220.0	216.0	212.1	208.1	202.9	196.6	190.2	183.9	177.6	172.4
62.5°	207.5	203.4	199.3	195.2	191.1	185.8	179.3	172.8	166.3	159.8	155.0
65°	182.0	177.8	173.5	169.3	164.9	159.7	153.4	146.9	140.6	134.3	130.1
67.5°	155.5	151.5	147.3	143.3	139.2	134.2	128.3	122.4	116.5	110.7	107.0
70°	138.7	134.6	130.4	126.3	122.1	117.2	111.5	105.8	100.2	94.5	91.3
72.5°	120.9	117.2	113.4	109.6	105.8	101.3	96.0	90.6	85.3	79.9	77.2
75°	96.8	93.1	89.4	85.8	82.1	77.9	73.3	68.6	64.0	59.4	57.0
77.5°	72.4	69.3	66.2	63.1	59.9	56.5	52.7	48.9	45.1	41.4	40.1
80°	56.6	53.8	50.9	48.1	45.1	42.2	39.3	36.3	33.3	30.3	30.1
82.5°	43.1	40.4	37.8	35.2	32.5	30.3	28.7	27.0	25.3	23.6	23.4
85°	24.1	22.1	20.2	18.1	16.1	15.0	14.7	14.4	14.1	13.9	13.7
87.5°	8.9	8.8	8.7	8.6	8.5	8.6	8.9	9.2	9.5	9.8	10.0
90°	3.3	5.9	8.7	11.3	13.9	16.3	18.3	20.2	22.1	24.1	25.5
92.5°	23.5	26.5	29.6	32.6	35.7	37.9	39.3	40.6	42.0	43.4	44.2
95°	65.7	67.9	70.1	72.3	74.5	76.4	78.1	79.8	81.5	83.2	84.0
97.5°	114.8	116.5	118.3	120.0	121.8	123.7	125.6	127.6	129.6	131.6	132.5
100°	153.4	154.3	155.2	156.2	157.2	158.8	161.0	163.2	165.3	167.6	168.1
102.5°	193.6	194.0	194.4	194.7	195.2	196.3	198.3	200.4	202.4	204.3	205.0
105°	255.1	255.4	255.6	255.9	256.1	256.7	257.7	258.6	259.7	260.6	261.4
107.5°	319.7	320.1	320.4	320.7	320.9	321.1	321.3	321.4	321.6	321.7	322.4
110°	363.5	364.0	364.5	365.0	365.5	365.6	365.4	365.1	364.9	364.7	364.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	409.1	409.3	409.3	409.4	409.5	409.3	408.9	408.5	408.0	407.6	407.5
115°	477.4	477.4	477.4	477.4	477.4	477.2	476.7	476.3	475.7	475.2	475.0
117.5°	541.9	542.1	542.2	542.4	542.6	542.5	542.2	541.9	541.5	541.2	540.4
120°	584.8	585.7	586.7	587.7	588.6	588.8	588.1	587.3	586.5	585.9	584.7
122.5°	629.4	629.8	630.2	630.6	631.0	631.0	630.7	630.4	630.0	629.6	628.9
125°	695.3	695.3	695.3	695.3	695.3	695.2	695.0	694.7	694.5	694.3	693.8
127.5°	755.2	755.9	756.6	757.3	758.1	758.3	757.8	757.4	757.1	756.7	756.2
130°	797.2	798.0	798.6	799.4	800.1	800.5	800.5	800.5	800.5	800.5	800.0
132.5°	840.1	840.7	841.2	841.7	842.3	842.4	842.3	842.1	841.9	841.7	841.1
135°	896.8	898.3	899.8	901.3	902.7	903.4	903.4	903.4	903.4	903.4	903.0
137.5°	958.6	959.3	960.0	960.6	961.3	961.9	962.2	962.6	963.0	963.4	962.8
140°	999.8	1000.2	1000.8	1001.3	1001.7	1001.9	1001.9	1001.9	1001.9	1001.9	1001.7
142.5°	1037.5	1037.9	1038.4	1038.9	1039.4	1039.5	1039.3	1039.2	1039.0	1038.8	1038.7
145°	1089.6	1090.5	1091.6	1092.5	1093.4	1094.1	1094.3	1094.6	1094.8	1095.0	1094.8
147.5°	1141.2	1142.5	1143.6	1144.7	1145.9	1146.4	1146.2	1146.0	1145.8	1145.7	1145.5
150°	1172.8	1173.7	1174.8	1175.7	1176.7	1177.1	1177.1	1177.1	1177.1	1177.1	1177.1
152.5°	1202.6	1203.2	1203.7	1204.3	1204.9	1205.3	1205.5	1205.7	1205.9	1206.1	1206.6
155°	1248.3	1248.3	1248.3	1248.3	1248.3	1248.2	1248.0	1247.7	1247.5	1247.3	1248.2
157.5°	1286.9	1286.5	1286.0	1285.6	1285.2	1284.9	1284.9	1284.8	1284.8	1284.7	1285.4
160°	1309.7	1309.5	1309.2	1308.9	1308.7	1308.4	1308.2	1308.0	1307.7	1307.5	1308.2
162.5°	1330.7	1330.0	1329.5	1328.8	1328.1	1327.8	1327.5	1327.3	1327.0	1326.7	1328.0
165°	1359.0	1358.2	1357.4	1356.8	1356.0	1355.4	1354.9	1354.4	1354.0	1353.5	1354.9
167.5°	1380.6	1379.6	1378.6	1377.5	1376.6	1376.0	1376.1	1376.1	1376.2	1376.2	1377.7
170°	1392.9	1391.7	1390.4	1389.2	1388.0	1387.5	1387.8	1388.0	1388.3	1388.6	1390.0
172.5°	1401.7	1400.6	1399.6	1398.5	1397.6	1397.0	1397.1	1397.2	1397.2	1397.3	1398.9
175°	1413.7	1412.5	1411.3	1410.0	1408.8	1408.1	1407.9	1407.6	1407.4	1407.1	1408.8
177.5°	1417.7	1416.6	1415.7	1414.8	1413.7	1413.2	1413.2	1413.2	1413.2	1413.2	1414.7
180°	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7
2.5°	580.5	581.4	582.2	582.6	582.5	582.5	582.4	582.3
5°	576.6	577.6	578.6	579.0	578.8	578.6	578.3	578.2
7.5°	568.9	569.6	570.2	570.3	570.0	569.8	569.4	569.1
10°	562.0	562.4	562.8	562.8	562.4	562.0	561.7	561.3
12.5°	553.5	553.7	554.0	553.8	553.3	552.7	552.1	551.6
15°	538.6	538.4	538.1	537.7	537.0	536.3	535.6	534.9
17.5°	520.5	520.0	519.4	518.6	517.6	516.5	515.5	514.4
20°	507.9	507.1	506.3	505.3	504.0	502.7	501.4	500.1
22.5°	493.9	492.7	491.5	490.4	489.4	488.3	487.3	486.2
25°	471.3	469.7	468.0	466.7	465.6	464.6	463.6	462.6
27.5°	448.3	446.2	444.1	442.4	440.9	439.5	438.1	436.7
30°	431.8	429.3	426.9	424.8	423.2	421.7	420.1	418.5
32.5°	415.0	412.1	409.3	407.0	405.5	404.0	402.5	401.0
35°	389.8	386.5	383.1	380.6	378.8	377.0	375.2	373.4
37.5°	363.0	359.2	355.4	352.6	350.8	349.0	347.2	345.4
40°	345.0	340.8	336.7	333.8	332.0	330.2	328.4	326.6
42.5°	327.3	323.1	318.9	315.8	314.0	312.1	310.2	308.4
45°	300.4	295.5	290.6	287.3	285.5	283.7	281.9	280.2
47.5°	273.1	268.1	263.1	259.6	257.6	255.6	253.6	251.8
50°	255.1	250.2	245.2	241.8	239.9	238.0	236.1	234.2
52.5°	237.0	232.1	227.1	223.5	221.6	219.6	217.6	215.7
55°	210.6	205.4	200.2	196.7	194.8	192.9	191.1	189.2
57.5°	184.5	179.4	174.1	170.8	169.4	168.0	166.5	165.0
60°	167.2	162.1	156.9	153.5	151.9	150.4	148.8	147.2
62.5°	150.2	145.4	140.7	137.7	136.4	135.2	133.8	132.6
65°	125.7	121.5	117.3	114.5	113.3	112.2	110.9	109.7
67.5°	103.3	99.6	96.0	93.5	92.2	90.9	89.5	88.2
70°	88.0	84.7	81.5	79.4	78.3	77.4	76.3	75.4
72.5°	74.4	71.5	68.8	66.9	66.0	65.1	64.2	63.2
75°	54.8	52.5	50.2	48.8	48.2	47.6	47.0	46.4
77.5°	38.7	37.4	36.1	35.3	35.2	35.0	34.8	34.6
80°	29.8	29.4	29.1	28.9	28.8	28.7	28.7	28.6
82.5°	23.1	22.9	22.7	22.5	22.4	22.3	22.2	22.1
85°	13.5	13.2	13.0	12.9	12.9	12.9	12.9	12.9
87.5°	10.3	10.5	10.7	10.8	11.0	11.2	11.4	11.6
90°	27.1	28.5	30.0	30.9	31.4	31.9	32.3	32.9
92.5°	45.1	46.0	46.8	47.4	47.8	48.1	48.4	48.6
95°	84.6	85.4	86.1	86.5	86.5	86.5	86.5	86.5
97.5°	133.4	134.2	135.2	135.5	135.5	135.5	135.5	135.5
100°	168.5	169.0	169.5	169.8	169.8	169.8	169.8	169.8
102.5°	205.7	206.4	207.1	207.5	207.7	207.9	208.1	208.3
105°	262.1	262.8	263.5	264.3	265.0	265.7	266.5	267.2
107.5°	323.1	323.8	324.4	324.8	324.7	324.7	324.6	324.6
110°	363.6	363.2	362.7	362.8	363.5	364.3	365.0	365.7



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CATALOG NUMBER: S124RDIP-S350D1205U830-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	407.4	407.3	407.2	407.2	407.4	407.5	407.6	407.8
115°	474.8	474.5	474.3	474.0	473.8	473.5	473.3	473.1
117.5°	539.5	538.7	537.8	537.2	536.7	536.2	535.7	535.3
120°	583.4	582.2	581.0	580.6	581.1	581.5	582.1	582.6
122.5°	628.0	627.2	626.3	625.5	624.6	623.8	622.8	622.0
125°	693.2	692.8	692.3	691.8	691.4	690.9	690.3	689.8
127.5°	755.7	755.3	754.7	754.3	753.9	753.5	753.1	752.7
130°	799.5	799.0	798.5	797.8	796.8	795.9	794.8	793.9
132.5°	840.7	840.2	839.7	839.2	838.9	838.5	838.1	837.7
135°	902.5	901.9	901.4	900.9	900.1	899.4	898.6	898.0
137.5°	962.1	961.5	960.9	960.6	960.8	960.9	961.1	961.2
140°	1001.5	1001.3	1001.0	1000.8	1000.5	1000.2	1000.0	999.8
142.5°	1038.7	1038.6	1038.6	1038.5	1038.5	1038.4	1038.4	1038.3
145°	1094.6	1094.3	1094.1	1093.5	1092.9	1092.1	1091.4	1090.7
147.5°	1145.3	1145.1	1144.8	1144.6	1144.4	1144.2	1143.9	1143.7
150°	1177.1	1177.1	1177.1	1177.0	1176.8	1176.6	1176.3	1176.1
152.5°	1207.2	1207.9	1208.4	1208.4	1207.8	1207.1	1206.5	1205.9
155°	1249.2	1250.2	1251.1	1251.1	1250.2	1249.2	1248.2	1247.3
157.5°	1286.2	1286.9	1287.6	1287.6	1286.8	1285.9	1285.1	1284.3
160°	1308.9	1309.7	1310.4	1310.1	1308.9	1307.7	1306.6	1305.3
162.5°	1329.4	1330.7	1332.0	1332.1	1330.9	1329.6	1328.4	1327.2
165°	1356.4	1357.8	1359.3	1359.5	1358.6	1357.6	1356.6	1355.7
167.5°	1379.1	1380.6	1382.1	1382.1	1380.5	1379.0	1377.5	1376.0
170°	1391.5	1392.9	1394.4	1394.2	1392.5	1390.8	1389.1	1387.4
172.5°	1400.6	1402.2	1403.9	1403.9	1402.1	1400.4	1398.7	1397.0
175°	1410.5	1412.2	1413.9	1413.9	1412.2	1410.5	1408.8	1407.1
177.5°	1416.0	1417.4	1418.7	1418.6	1417.0	1415.5	1413.9	1412.4
180°	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9	1415.9

(END OF REPORT)