

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: P332274-935

Luminaire Tested: **S123RDIP-S560D365U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332274-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S560D365U935-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2911.5 lumens
Efficiency: N/A
Efficacy: 105.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.23
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Direct

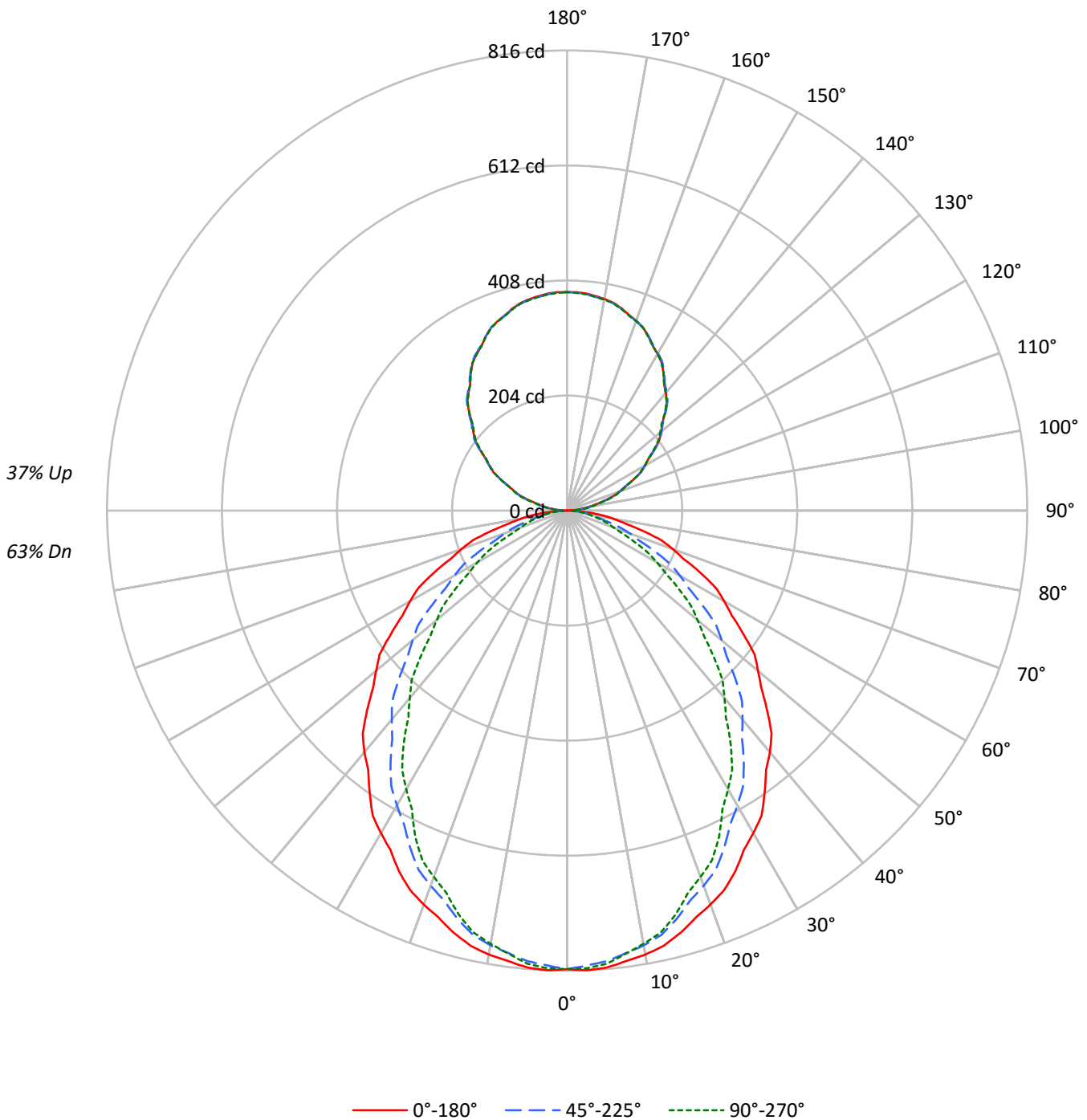
Input Watts (W): 27.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332274-935

CATALOG NUMBER: S123RDIP-S560D365U935-4F0-1E-UDD-F1

Luminous Intensity Polar Plot





TEST NUMBER: P332274-935

CATALOG NUMBER: S123RDIP-S560D365U935-4F0-1E-UDD-F1

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	110	110	110	110	103	103	103	103	91	91	91	79	79	79	68	68	68	63
1	101	97	93	90	95	91	88	85	80	78	75	70	68	67	61	60	58	54
2	92	85	79	74	87	80	75	70	71	67	63	62	59	56	54	52	50	46
3	85	75	68	62	79	71	64	59	63	58	54	55	51	48	48	45	43	39
4	78	67	59	53	73	63	56	51	56	50	46	50	45	42	43	40	37	34
5	71	60	52	46	67	57	49	44	50	45	40	45	40	36	39	36	33	30
6	66	54	46	40	62	51	44	38	46	40	35	41	36	32	36	32	29	26
7	61	49	41	35	57	46	39	34	42	36	31	37	32	29	33	29	26	24
8	57	44	37	31	53	42	35	30	38	32	28	34	29	26	30	26	23	21
9	53	41	33	28	50	39	32	27	35	29	25	31	27	23	28	24	21	19
10	50	38	30	25	47	36	29	25	32	27	23	29	24	21	26	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8753	8753	8753
5°	8787	8666	8715
10°	8737	8557	8528
15°	8643	8357	8269
20°	8514	8107	7918
25°	8381	7826	7574
30°	8206	7501	7091
35°	8025	7176	6646
40°	7859	6794	6097
45°	7640	6416	5602
50°	7400	5987	5047
55°	7156	5495	4530
60°	6928	4969	3961
65°	6635	4401	3393
70°	6266	3695	2738
75°	5731	2907	2578
80°	5114	2579	2368
85°	4323	2272	2112



TEST NUMBER: P332274-935

CATALOG NUMBER: S123RDIP-S560D365U935-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.4	2.6
10°-20°	212.5	7.3
20°-30°	305.9	10.5
30°-40°	344.6	11.8
40°-50°	329.7	11.3
50°-60°	270.0	9.3
60°-70°	182.2	6.3
70°-80°	91.6	3.1
80°-90°	25.4	0.9
90°-100°	25.2	0.9
100°-110°	75.5	2.6
110°-120°	128.5	4.4
120°-130°	169.0	5.8
130°-140°	189.9	6.5
140°-150°	186.7	6.4
150°-160°	157.2	5.4
160°-170°	104.6	3.6
170°-180°	36.6	1.3
0°-30°	594.8	20.4
0°-40°	939.4	32.3
0°-60°	1539.1	52.9
0°-90°	1838.3	63.1
90°-120°	229.2	7.9
90°-150°	774.8	26.6
90°-180°	1073.0	36.9
0°-180°	2911.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	813	813	813	813	813	
5°	813	810	802	808	807	77
15°	776	768	750	747	742	218
25°	706	688	659	645	638	324
35°	611	586	546	519	506	382
45°	502	471	422	385	368	387
55°	381	348	293	256	241	342
65°	260	223	173	142	133	258
75°	138	106	70	64	62	147
85°	35	21	18	17	17	39
90°	0	3	7	8	9	3
95°	18	20	23	24	24	20
105°	68	69	72	72	72	73
115°	129	130	130	130	130	128
125°	189	190	190	188	187	169
135°	246	247	247	246	245	189
145°	298	298	299	299	298	186
155°	341	341	341	342	340	157
165°	372	371	371	372	370	105
175°	386	385	385	387	385	37
180°	387	387	387	387	387	



TEST NUMBER: P332274-935

CATALOG NUMBER: S123RDIP-S560D365U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	813.2	813.2	813.2	813.2	813.2	813.2	813.2	813.2	813.2	813.2	813.2
2.5°	815.9	815.4	814.9	814.4	814.0	813.0	811.7	810.2	808.8	807.4	808.7
5°	813.2	812.5	811.8	811.1	810.3	809.1	807.3	805.6	803.7	802.0	803.3
7.5°	805.7	804.9	804.1	803.3	802.5	801.0	798.7	796.4	794.1	791.9	792.6
10°	799.4	798.3	797.3	796.3	795.3	793.4	790.8	788.2	785.5	782.9	783.0
12.5°	790.4	789.3	788.1	787.0	785.8	783.7	780.4	777.2	774.0	770.8	770.7
15°	775.6	774.0	772.4	770.8	769.2	766.3	762.2	758.1	754.0	749.9	749.2
17.5°	757.0	755.2	753.3	751.4	749.5	746.0	740.7	735.6	730.3	725.1	723.6
20°	743.3	741.0	738.7	736.2	733.9	730.0	724.4	718.8	713.3	707.7	705.8
22.5°	728.0	725.3	722.6	719.9	717.2	712.9	707.0	701.0	695.2	689.2	686.8
25°	705.7	702.1	698.4	694.7	691.0	685.9	679.1	672.4	665.6	658.9	655.8
27.5°	678.6	674.6	670.5	666.5	662.5	656.7	649.2	641.7	634.2	626.7	622.4
30°	660.2	655.8	651.4	647.0	642.7	636.3	628.1	619.9	611.7	603.5	598.5
32.5°	641.7	636.8	631.8	626.8	621.8	615.0	606.3	597.6	588.9	580.2	574.8
35°	610.7	605.5	600.2	595.0	589.6	582.5	573.3	564.3	555.2	546.1	539.8
37.5°	579.4	573.5	567.7	561.7	555.9	548.1	538.4	528.7	519.0	509.3	502.1
40°	559.3	552.8	546.4	539.9	533.5	525.0	514.7	504.3	493.9	483.5	475.8
42.5°	536.6	530.1	523.7	517.3	510.8	502.2	491.5	480.7	469.9	459.2	450.8
45°	501.9	495.3	488.7	482.2	475.5	466.6	455.3	444.0	432.7	421.5	413.1
47.5°	467.2	459.9	452.7	445.5	438.2	429.0	417.7	406.4	395.1	383.8	374.8
50°	441.9	435.0	428.1	421.2	414.3	404.9	393.0	381.3	369.4	357.5	348.4
52.5°	419.2	411.7	404.2	396.7	389.3	379.7	367.9	356.2	344.4	332.7	323.2
55°	381.3	374.0	366.9	359.6	352.5	342.7	330.2	317.8	305.3	292.8	284.3
57.5°	346.1	338.3	330.5	322.6	314.8	304.6	292.1	279.7	267.1	254.6	246.6
60°	321.8	313.8	305.7	297.6	289.6	279.5	267.3	255.2	243.0	230.8	222.9
62.5°	297.6	289.6	281.5	273.4	265.4	255.2	243.1	230.9	218.7	206.6	199.1
65°	260.5	252.4	244.4	236.3	228.3	218.5	207.1	195.7	184.3	172.8	165.7
67.5°	223.4	215.3	207.2	199.0	190.9	181.3	170.3	159.4	148.4	137.4	132.1
70°	199.1	191.2	183.4	175.5	167.6	158.4	148.2	137.9	127.7	117.4	112.3
72.5°	174.9	167.1	159.3	151.5	143.7	135.2	125.9	116.5	107.2	97.9	93.7
75°	137.8	130.8	123.8	116.8	109.7	102.1	94.1	86.0	78.0	69.9	68.4
77.5°	104.1	97.7	91.4	85.0	78.6	72.8	67.7	62.5	57.3	52.1	51.3
80°	82.5	76.5	70.4	64.4	58.4	53.9	50.8	47.7	44.6	41.6	41.1
82.5°	61.9	56.7	51.5	46.3	41.1	37.8	36.3	35.0	33.5	32.0	31.6
85°	35.0	31.8	28.5	25.3	22.0	20.2	19.8	19.4	18.9	18.4	18.2
87.5°	12.7	11.5	10.4	9.3	8.1	7.6	7.8	8.0	8.2	8.4	8.3
90°	0.3	0.9	1.6	2.3	3.0	3.8	4.6	5.5	6.5	7.3	7.6
92.5°	7.4	7.8	8.3	8.8	9.2	9.6	10.2	10.7	11.2	11.7	11.9
95°	18.0	18.4	18.9	19.4	19.8	20.3	20.9	21.4	22.0	22.6	22.8
97.5°	31.9	32.2	32.6	33.0	33.3	33.7	34.1	34.4	34.9	35.2	35.6
100°	41.4	41.8	42.2	42.6	43.0	43.4	43.7	44.1	44.4	44.7	44.9
102.5°	52.3	52.6	52.8	53.0	53.3	53.6	54.1	54.6	55.0	55.4	55.6
105°	68.4	68.6	68.7	68.9	69.0	69.4	70.0	70.6	71.2	71.8	71.8
107.5°	87.2	87.3	87.4	87.5	87.6	87.6	87.9	88.2	88.4	88.7	88.9
110°	98.9	99.0	99.2	99.3	99.4	99.5	99.7	99.9	100.0	100.1	100.4



TEST NUMBER: P332274-935

CATALOG NUMBER: S123RDIP-S560D365U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	111.1	111.2	111.2	111.3	111.4	111.4	111.5	111.5	111.5	111.6	111.8
115°	129.3	129.5	129.8	129.9	130.1	130.2	130.0	129.9	129.8	129.6	129.7
117.5°	147.7	147.8	148.0	148.1	148.3	148.2	148.0	147.8	147.7	147.5	147.5
120°	159.1	159.5	160.0	160.3	160.7	160.7	160.5	160.1	159.8	159.5	159.4
122.5°	171.1	171.3	171.7	171.9	172.3	172.3	172.1	171.9	171.8	171.6	171.4
125°	189.2	189.4	189.7	189.9	190.1	190.1	189.9	189.9	189.7	189.6	189.2
127.5°	206.0	206.5	206.9	207.3	207.8	207.9	207.8	207.6	207.5	207.3	207.0
130°	217.2	217.7	218.3	218.9	219.4	219.6	219.4	219.2	219.0	218.8	218.5
132.5°	228.4	229.0	229.5	230.1	230.6	230.8	230.7	230.5	230.3	230.2	229.9
135°	245.6	246.0	246.3	246.8	247.2	247.4	247.3	247.2	247.1	247.1	246.8
137.5°	261.4	261.7	262.0	262.3	262.7	262.9	263.1	263.3	263.5	263.6	263.4
140°	272.3	272.7	273.0	273.4	273.7	273.9	274.0	274.0	274.1	274.1	274.1
142.5°	282.3	282.7	283.0	283.4	283.6	283.9	284.0	284.1	284.2	284.4	284.3
145°	297.9	298.0	298.2	298.3	298.4	298.6	298.8	299.0	299.2	299.4	299.4
147.5°	311.5	311.8	312.0	312.3	312.5	312.7	312.9	313.1	313.2	313.5	313.5
150°	321.0	321.2	321.2	321.4	321.6	321.7	321.8	321.9	322.1	322.2	322.2
152.5°	328.8	329.0	329.2	329.3	329.6	329.7	329.8	329.8	329.9	330.0	330.1
155°	341.1	341.1	341.1	341.1	341.1	341.1	341.2	341.2	341.3	341.4	341.6
157.5°	351.5	351.5	351.4	351.3	351.2	351.2	351.3	351.3	351.4	351.5	351.7
160°	358.1	358.0	357.8	357.7	357.6	357.5	357.5	357.5	357.5	357.5	357.8
162.5°	363.9	363.8	363.6	363.4	363.2	363.2	363.2	363.3	363.3	363.3	363.7
165°	371.5	371.3	371.1	370.9	370.7	370.6	370.6	370.6	370.6	370.6	371.0
167.5°	377.5	377.3	377.0	376.7	376.4	376.3	376.4	376.4	376.5	376.6	376.9
170°	380.9	380.6	380.4	380.1	379.9	379.7	379.7	379.7	379.7	379.7	380.2
172.5°	383.7	383.3	383.1	382.8	382.5	382.4	382.4	382.4	382.4	382.4	382.8
175°	386.4	386.2	385.9	385.6	385.4	385.2	385.2	385.2	385.2	385.2	385.6
177.5°	387.5	387.4	387.1	386.9	386.7	386.6	386.6	386.6	386.6	386.6	386.9
180°	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4



TEST NUMBER: P332274-935

CATALOG NUMBER: S123RDIP-S560D365U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	813.2	813.2	813.2	813.2	813.2	813.2	813.2	813.2
2.5°	810.0	811.3	812.6	813.1	812.9	812.6	812.4	812.2
5°	804.6	806.0	807.3	807.8	807.5	807.2	806.9	806.6
7.5°	793.3	794.0	794.8	794.9	794.4	793.9	793.4	792.9
10°	783.2	783.3	783.4	783.2	782.5	781.7	781.0	780.2
12.5°	770.6	770.5	770.4	769.9	769.0	768.2	767.4	766.5
15°	748.5	747.7	747.0	746.1	745.0	744.1	743.0	742.0
17.5°	722.0	720.5	718.8	717.4	715.8	714.3	712.7	711.3
20°	703.9	702.0	700.1	698.3	696.5	694.7	692.9	691.2
22.5°	684.5	682.1	679.8	677.7	676.1	674.4	672.8	671.1
25°	652.7	649.6	646.6	644.2	642.7	641.0	639.4	637.7
27.5°	618.1	613.9	609.6	606.2	603.7	601.3	598.8	596.3
30°	593.5	588.5	583.6	579.9	577.6	575.2	572.8	570.5
32.5°	569.4	563.9	558.4	554.5	552.1	549.6	547.1	544.7
35°	533.5	527.2	520.9	516.4	513.8	511.2	508.5	505.8
37.5°	495.0	487.8	480.7	475.5	472.3	469.0	465.7	462.4
40°	468.2	460.5	453.0	447.5	444.1	440.7	437.4	433.9
42.5°	442.6	434.2	425.9	420.2	417.2	414.1	411.1	408.1
45°	404.8	396.4	388.1	382.1	378.6	375.1	371.5	368.0
47.5°	365.7	356.6	347.5	341.4	338.3	335.1	332.0	328.8
50°	339.3	330.2	321.2	314.9	311.5	308.2	304.8	301.4
52.5°	313.8	304.4	294.9	288.7	285.7	282.7	279.7	276.6
55°	275.9	267.3	258.8	253.1	250.2	247.3	244.4	241.4
57.5°	238.5	230.5	222.5	217.2	214.7	212.2	209.7	207.2
60°	215.0	207.1	199.1	194.0	191.5	189.0	186.5	184.0
62.5°	191.7	184.3	176.8	171.8	169.2	166.5	163.9	161.4
65°	158.4	151.3	144.0	139.7	138.1	136.5	134.8	133.2
67.5°	126.7	121.3	116.0	112.4	110.7	109.0	107.3	105.6
70°	107.1	102.0	96.9	93.5	91.9	90.3	88.7	87.0
72.5°	89.5	85.3	81.1	78.7	78.0	77.3	76.6	75.9
75°	67.0	65.5	64.1	63.2	62.9	62.6	62.3	62.0
77.5°	50.5	49.8	48.9	48.4	48.1	47.8	47.5	47.2
80°	40.6	40.2	39.8	39.4	39.2	38.8	38.6	38.2
82.5°	31.2	30.7	30.3	30.0	30.0	30.0	29.9	29.8
85°	17.9	17.6	17.3	17.1	17.1	17.1	17.1	17.1
87.5°	8.2	8.1	8.1	8.0	7.9	7.8	7.7	7.7
90°	7.8	8.1	8.4	8.6	8.7	8.9	9.0	9.1
92.5°	12.1	12.3	12.6	12.7	12.6	12.5	12.4	12.3
95°	23.1	23.3	23.6	23.8	23.8	23.8	23.8	23.8
97.5°	35.8	36.2	36.5	36.6	36.6	36.6	36.5	36.5
100°	45.1	45.4	45.5	45.7	45.8	46.0	46.1	46.2
102.5°	55.9	56.1	56.2	56.3	56.3	56.3	56.2	56.2
105°	71.8	71.8	71.8	71.9	72.0	72.2	72.3	72.4
107.5°	89.1	89.3	89.5	89.6	89.5	89.5	89.4	89.3
110°	100.7	100.9	101.2	101.3	101.1	101.0	100.8	100.7



TEST NUMBER: P332274-935

CATALOG NUMBER: S123RDIP-S560D365U935-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	112.2	112.5	112.9	113.0	113.0	113.0	112.9	112.9
115°	129.8	129.8	129.9	129.9	129.8	129.8	129.7	129.6
117.5°	147.5	147.5	147.5	147.3	147.1	147.0	146.8	146.6
120°	159.3	159.2	159.2	159.0	158.9	158.8	158.7	158.5
122.5°	171.3	171.1	170.9	170.7	170.6	170.3	170.1	170.0
125°	189.0	188.7	188.5	188.2	188.0	187.7	187.4	187.1
127.5°	206.6	206.2	205.8	205.4	205.2	204.8	204.6	204.2
130°	218.3	217.9	217.7	217.3	216.9	216.4	215.9	215.4
132.5°	229.5	229.2	228.9	228.6	228.2	227.8	227.5	227.1
135°	246.5	246.2	246.0	245.8	245.6	245.5	245.4	245.2
137.5°	263.1	262.9	262.5	262.3	262.0	261.7	261.5	261.2
140°	274.0	274.0	273.9	273.6	273.1	272.7	272.2	271.7
142.5°	284.2	284.1	284.1	283.9	283.5	283.2	282.8	282.4
145°	299.3	299.2	299.1	298.9	298.7	298.4	298.2	297.9
147.5°	313.5	313.5	313.5	313.2	312.9	312.5	312.0	311.6
150°	322.2	322.2	322.2	322.0	321.6	321.2	320.8	320.4
152.5°	330.2	330.4	330.5	330.3	329.9	329.6	329.2	328.9
155°	341.9	342.2	342.5	342.3	341.9	341.4	341.0	340.4
157.5°	352.0	352.3	352.6	352.5	352.1	351.8	351.4	351.0
160°	358.2	358.5	358.9	358.9	358.6	358.3	358.1	357.8
162.5°	364.0	364.4	364.7	364.6	364.2	363.8	363.3	362.9
165°	371.4	371.8	372.2	372.2	371.7	371.3	370.7	370.3
167.5°	377.4	377.8	378.2	378.2	377.8	377.4	376.9	376.6
170°	380.6	381.2	381.6	381.6	381.2	380.6	380.2	379.7
172.5°	383.2	383.7	384.1	384.1	383.6	383.1	382.6	382.2
175°	386.0	386.4	386.8	386.8	386.3	385.8	385.4	384.9
177.5°	387.3	387.5	387.9	387.9	387.5	387.1	386.8	386.3
180°	387.4	387.4	387.4	387.4	387.4	387.4	387.4	387.4

(END OF REPORT)