

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: P332274-840

Luminaire Tested: **S123RDIP-S560D365U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332274-840  
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-S560D365U840-4F0-1E-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: 3414.8 lumens  
Efficiency: N/A  
Efficacy: 124.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Semi-Direct

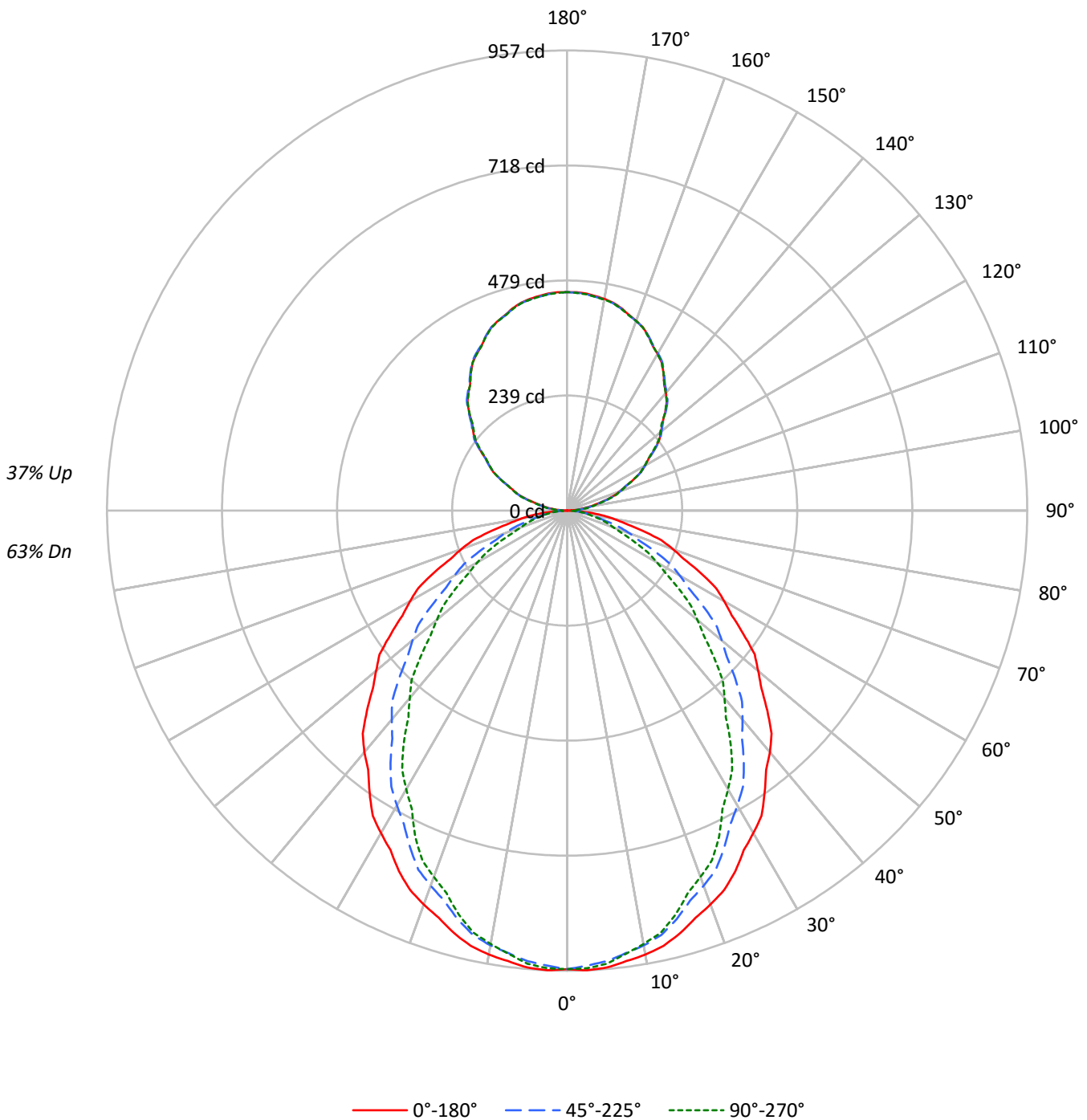
Input Watts (W): 27.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P332274-840

CATALOG NUMBER: S123RDIP-S560D365U840-4F0-1E-UDD-F1

### Luminous Intensity Polar Plot





TEST NUMBER: P332274-840

CATALOG NUMBER: S123RDIP-S560D365U840-4F0-1E-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°	10267	10267	10267
5°	10306	10164	10222
10°	10248	10037	10002
15°	10137	9802	9698
20°	9986	9507	9286
25°	9830	9178	8884
30°	9625	8797	8316
35°	9412	8418	7796
40°	9218	7967	7152
45°	8961	7524	6570
50°	8679	7021	5921
55°	8392	6446	5315
60°	8127	5828	4646
65°	7784	5163	3978
70°	7352	4334	3213
75°	6725	3410	3023
80°	5994	3025	2777
85°	5064	2668	2482



TEST NUMBER: P332274-840

CATALOG NUMBER: S123RDIP-S560D365U840-4F0-1E-UDD-F1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	89.6	2.6
10°-20°	249.2	7.3
20°-30°	358.8	10.5
30°-40°	404.2	11.8
40°-50°	386.7	11.3
50°-60°	316.7	9.3
60°-70°	213.7	6.3
70°-80°	107.5	3.1
80°-90°	29.8	0.9
90°-100°	29.6	0.9
100°-110°	88.6	2.6
110°-120°	150.7	4.4
120°-130°	198.2	5.8
130°-140°	222.7	6.5
140°-150°	219.0	6.4
150°-160°	184.3	5.4
160°-170°	122.7	3.6
170°-180°	43.0	1.3
0°-30°	697.6	20.4
0°-40°	1101.8	32.3
0°-60°	1805.2	52.9
0°-90°	2156.1	63.1
90°-120°	268.8	7.9
90°-150°	908.7	26.6
90°-180°	1259.0	36.9
0°-180°	3414.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	954	954	954	954	954	
5°	954	950	941	947	946	90
15°	910	900	880	876	870	256
25°	828	808	773	757	748	381
35°	716	687	641	608	593	448
45°	589	552	494	452	432	454
55°	447	408	344	300	283	401
65°	306	262	203	166	156	302
75°	162	124	82	75	73	172
85°	41	25	22	20	20	46
90°	0	4	9	10	11	3
95°	21	24	26	28	28	24
105°	80	81	84	84	85	86
115°	152	153	152	152	152	150
125°	222	223	222	221	219	198
135°	288	290	290	288	288	222
145°	349	350	351	351	349	218
155°	400	400	400	402	399	184
165°	436	435	435	437	434	123
175°	453	452	452	454	451	43
180°	454	454	454	454	454	



TEST NUMBER: P332274-840

CATALOG NUMBER: S123RDIP-S560D365U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	953.8	953.8	953.8	953.8	953.8	953.8	953.8	953.8	953.8	953.8	953.8
2.5°	956.9	956.3	955.8	955.2	954.7	953.6	952.0	950.3	948.7	947.1	948.6
5°	953.8	953.0	952.1	951.3	950.4	949.0	946.8	944.8	942.7	940.7	942.2
7.5°	945.0	944.1	943.1	942.2	941.3	939.5	936.9	934.1	931.4	928.8	929.6
10°	937.6	936.3	935.1	933.9	932.8	930.6	927.6	924.4	921.3	918.3	918.4
12.5°	927.1	925.7	924.3	923.0	921.7	919.2	915.3	911.6	907.8	904.0	903.9
15°	909.7	907.9	905.9	904.0	902.2	898.8	894.0	889.2	884.3	879.6	878.7
17.5°	887.9	885.8	883.5	881.3	879.1	874.9	868.8	862.7	856.6	850.5	848.7
20°	871.8	869.1	866.4	863.5	860.8	856.2	849.6	843.1	836.6	830.0	827.8
22.5°	853.8	850.7	847.6	844.3	841.2	836.2	829.2	822.2	815.4	808.4	805.6
25°	827.7	823.4	819.1	814.9	810.5	804.5	796.5	788.6	780.7	772.8	769.2
27.5°	796.0	791.2	786.5	781.7	777.0	770.2	761.4	752.7	743.9	735.1	730.0
30°	774.4	769.2	764.1	758.9	753.8	746.3	736.7	727.1	717.4	707.8	702.0
32.5°	752.7	746.9	741.0	735.2	729.3	721.3	711.1	700.9	690.7	680.5	674.2
35°	716.3	710.1	704.0	697.8	691.6	683.2	672.5	661.9	651.2	640.6	633.1
37.5°	679.5	672.7	665.8	658.8	652.0	642.9	631.5	620.2	608.7	597.3	589.0
40°	656.0	648.4	640.9	633.3	625.7	615.8	603.7	591.5	579.3	567.0	558.1
42.5°	629.3	621.8	614.3	606.7	599.2	589.1	576.4	563.8	551.2	538.6	528.8
45°	588.7	581.0	573.2	565.5	557.7	547.2	534.0	520.8	507.6	494.3	484.5
47.5°	548.0	539.5	531.0	522.5	514.0	503.2	489.9	476.7	463.4	450.2	439.6
50°	518.3	510.2	502.1	494.0	485.9	474.9	461.0	447.2	433.2	419.3	408.6
52.5°	491.7	482.9	474.1	465.3	456.7	445.4	431.5	417.8	403.9	390.2	379.1
55°	447.2	438.7	430.3	421.8	413.4	401.9	387.3	372.7	358.1	343.5	333.5
57.5°	406.0	396.8	387.6	378.4	369.2	357.3	342.6	328.0	313.3	298.6	289.2
60°	377.5	368.1	358.6	349.1	339.7	327.8	313.6	299.3	285.0	270.7	261.5
62.5°	349.0	339.6	330.1	320.6	311.2	299.3	285.1	270.8	256.5	242.3	233.6
65°	305.6	296.1	286.7	277.2	267.7	256.3	242.9	229.5	216.1	202.7	194.3
67.5°	262.1	252.6	243.0	233.4	223.9	212.7	199.8	186.9	174.1	161.2	154.9
70°	233.6	224.3	215.1	205.8	196.5	185.8	173.8	161.8	149.8	137.7	131.7
72.5°	205.1	196.0	186.8	177.7	168.5	158.5	147.6	136.6	125.7	114.8	109.9
75°	161.7	153.4	145.2	136.9	128.7	119.8	110.4	100.9	91.5	82.0	80.3
77.5°	122.1	114.6	107.1	99.7	92.2	85.4	79.4	73.3	67.2	61.1	60.2
80°	96.7	89.7	82.6	75.5	68.5	63.2	59.6	55.9	52.3	48.8	48.2
82.5°	72.6	66.4	60.4	54.3	48.2	44.3	42.6	41.0	39.3	37.6	37.1
85°	41.0	37.3	33.4	29.7	25.9	23.7	23.2	22.7	22.2	21.6	21.3
87.5°	14.9	13.5	12.2	10.9	9.5	8.9	9.2	9.4	9.6	9.8	9.7
90°	0.4	1.1	1.9	2.7	3.5	4.4	5.5	6.5	7.6	8.6	8.9
92.5°	8.7	9.2	9.7	10.3	10.8	11.3	11.9	12.5	13.1	13.7	13.9
95°	21.1	21.6	22.1	22.7	23.2	23.8	24.5	25.1	25.8	26.5	26.8
97.5°	37.4	37.8	38.3	38.7	39.1	39.5	40.0	40.4	40.9	41.3	41.7
100°	48.6	49.0	49.5	50.0	50.4	50.9	51.3	51.7	52.1	52.4	52.7
102.5°	61.4	61.7	61.9	62.2	62.5	62.9	63.4	64.0	64.5	65.0	65.2
105°	80.3	80.5	80.6	80.8	80.9	81.4	82.1	82.8	83.5	84.2	84.2
107.5°	102.3	102.4	102.5	102.6	102.7	102.8	103.1	103.4	103.7	104.0	104.2
110°	116.0	116.1	116.3	116.4	116.6	116.7	116.9	117.1	117.2	117.4	117.8



TEST NUMBER: P332274-840

CATALOG NUMBER: S123RDIP-S560D365U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	130.3	130.4	130.5	130.6	130.7	130.7	130.8	130.8	130.8	130.9	131.2
115°	151.7	151.9	152.2	152.4	152.6	152.7	152.5	152.4	152.2	152.0	152.1
117.5°	173.2	173.4	173.6	173.7	173.9	173.8	173.6	173.4	173.2	173.0	173.0
120°	186.6	187.1	187.6	188.0	188.5	188.5	188.2	187.8	187.4	187.0	186.9
122.5°	200.7	201.0	201.4	201.7	202.1	202.1	201.9	201.7	201.5	201.3	201.1
125°	222.0	222.2	222.5	222.7	223.0	223.0	222.8	222.7	222.5	222.4	222.0
127.5°	241.7	242.2	242.7	243.2	243.7	243.9	243.7	243.5	243.4	243.2	242.8
130°	254.8	255.4	256.1	256.7	257.3	257.5	257.3	257.1	256.8	256.6	256.3
132.5°	267.9	268.6	269.2	269.8	270.4	270.7	270.5	270.3	270.1	270.0	269.6
135°	288.0	288.5	288.9	289.4	289.9	290.1	290.0	289.9	289.8	289.8	289.4
137.5°	306.6	307.0	307.3	307.7	308.1	308.4	308.6	308.8	309.0	309.2	308.9
140°	319.4	319.8	320.2	320.6	321.0	321.2	321.3	321.3	321.4	321.5	321.4
142.5°	331.1	331.5	331.9	332.3	332.6	333.0	333.2	333.3	333.4	333.6	333.5
145°	349.4	349.5	349.7	349.8	350.0	350.2	350.4	350.7	350.9	351.1	351.1
147.5°	365.4	365.7	366.0	366.3	366.5	366.8	367.0	367.2	367.4	367.7	367.7
150°	376.5	376.7	376.8	377.0	377.2	377.3	377.5	377.6	377.8	377.9	377.9
152.5°	385.7	385.9	386.1	386.3	386.6	386.7	386.8	386.9	387.0	387.1	387.2
155°	400.1	400.1	400.1	400.1	400.1	400.1	400.2	400.2	400.3	400.4	400.7
157.5°	412.3	412.2	412.1	412.0	411.9	411.9	412.0	412.0	412.1	412.2	412.5
160°	420.0	419.9	419.7	419.6	419.4	419.3	419.3	419.3	419.3	419.3	419.7
162.5°	426.9	426.7	426.5	426.3	426.0	426.0	426.0	426.1	426.2	426.2	426.6
165°	435.8	435.6	435.3	435.0	434.7	434.6	434.6	434.6	434.6	434.6	435.2
167.5°	442.8	442.5	442.2	441.8	441.5	441.4	441.5	441.5	441.6	441.7	442.1
170°	446.8	446.5	446.2	445.9	445.6	445.4	445.4	445.4	445.4	445.4	446.0
172.5°	450.0	449.6	449.3	449.0	448.7	448.5	448.5	448.5	448.5	448.5	449.0
175°	453.2	452.9	452.6	452.3	452.0	451.8	451.8	451.8	451.8	451.8	452.3
177.5°	454.5	454.3	454.0	453.8	453.5	453.4	453.4	453.4	453.4	453.4	453.8
180°	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3



TEST NUMBER: P332274-840

CATALOG NUMBER: S123RDIP-S560D365U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	953.8	953.8	953.8	953.8	953.8	953.8	953.8	953.8
2.5°	950.1	951.6	953.1	953.7	953.4	953.1	952.9	952.6
5°	943.7	945.3	946.8	947.5	947.2	946.7	946.4	946.0
7.5°	930.5	931.3	932.2	932.3	931.7	931.2	930.6	930.0
10°	918.6	918.8	918.9	918.6	917.8	916.9	916.0	915.1
12.5°	903.8	903.7	903.6	903.0	902.0	901.0	900.1	899.1
15°	877.9	877.0	876.2	875.0	873.8	872.7	871.5	870.3
17.5°	846.9	845.1	843.1	841.4	839.6	837.8	836.0	834.2
20°	825.6	823.3	821.1	819.0	816.9	814.9	812.7	810.7
22.5°	802.8	800.0	797.3	794.9	792.9	791.0	789.1	787.2
25°	765.6	761.9	758.4	755.6	753.8	751.8	749.9	748.0
27.5°	725.0	720.0	715.0	711.0	708.1	705.3	702.4	699.4
30°	696.1	690.2	684.5	680.1	677.4	674.7	671.9	669.1
32.5°	667.8	661.4	655.0	650.4	647.5	644.6	641.7	638.8
35°	625.7	618.3	611.0	605.7	602.6	599.6	596.4	593.3
37.5°	580.6	572.2	563.8	557.7	553.9	550.1	546.2	542.4
40°	549.2	540.2	531.3	524.8	520.9	516.9	513.0	509.0
42.5°	519.1	509.3	499.5	492.8	489.3	485.7	482.2	478.7
45°	474.7	464.9	455.1	448.2	444.0	439.9	435.8	431.6
47.5°	428.9	418.3	407.6	400.4	396.8	393.0	389.4	385.7
50°	398.0	387.3	376.7	369.3	365.4	361.4	357.5	353.6
52.5°	368.1	357.0	345.9	338.6	335.1	331.5	328.0	324.5
55°	323.6	313.6	303.6	296.9	293.5	290.0	286.6	283.2
57.5°	279.7	270.3	260.9	254.8	251.9	248.9	246.0	243.1
60°	252.2	242.9	233.6	227.5	224.6	221.7	218.7	215.8
62.5°	224.8	216.1	207.3	201.5	198.4	195.3	192.3	189.2
65°	185.8	177.4	169.0	163.8	162.0	160.1	158.1	156.2
67.5°	148.7	142.3	136.0	131.9	129.9	127.8	125.8	123.8
70°	125.6	119.7	113.6	109.7	107.8	105.9	104.0	102.1
72.5°	104.9	100.1	95.1	92.3	91.5	90.7	89.9	89.1
75°	78.6	76.9	75.1	74.1	73.7	73.4	73.0	72.7
77.5°	59.3	58.4	57.4	56.8	56.5	56.0	55.7	55.3
80°	47.7	47.2	46.7	46.3	45.9	45.5	45.2	44.8
82.5°	36.6	36.1	35.5	35.2	35.1	35.1	35.0	34.9
85°	21.0	20.6	20.3	20.1	20.1	20.1	20.1	20.1
87.5°	9.6	9.5	9.5	9.4	9.3	9.2	9.1	9.0
90°	9.2	9.5	9.8	10.1	10.2	10.4	10.5	10.7
92.5°	14.2	14.4	14.7	14.8	14.7	14.6	14.5	14.4
95°	27.1	27.4	27.7	27.9	27.9	27.9	27.9	27.9
97.5°	42.0	42.4	42.8	42.9	42.9	42.9	42.8	42.8
100°	52.9	53.2	53.4	53.6	53.7	53.9	54.1	54.2
102.5°	65.5	65.7	65.9	66.0	66.0	66.0	65.9	65.9
105°	84.2	84.2	84.2	84.3	84.4	84.6	84.8	84.9
107.5°	104.5	104.7	105.0	105.1	105.0	104.9	104.8	104.7
110°	118.1	118.4	118.7	118.8	118.6	118.5	118.3	118.2





TEST NUMBER: P332274-840

CATALOG NUMBER: S123RDIP-S560D365U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	131.6	132.0	132.4	132.5	132.5	132.5	132.4	132.4
115°	152.2	152.3	152.4	152.4	152.3	152.2	152.1	152.0
117.5°	173.0	173.0	173.0	172.8	172.6	172.4	172.2	172.0
120°	186.8	186.7	186.7	186.5	186.4	186.2	186.1	185.9
122.5°	200.9	200.7	200.5	200.3	200.1	199.8	199.5	199.3
125°	221.7	221.4	221.1	220.8	220.5	220.2	219.7	219.4
127.5°	242.3	241.9	241.4	241.0	240.7	240.2	239.9	239.5
130°	256.0	255.6	255.3	254.9	254.4	253.8	253.3	252.7
132.5°	269.2	268.8	268.5	268.1	267.6	267.2	266.8	266.4
135°	289.1	288.8	288.5	288.3	288.1	287.9	287.8	287.6
137.5°	308.6	308.3	307.9	307.6	307.3	307.0	306.7	306.4
140°	321.3	321.3	321.2	320.9	320.3	319.8	319.2	318.7
142.5°	333.4	333.3	333.3	333.0	332.5	332.1	331.6	331.2
145°	351.0	350.9	350.8	350.6	350.3	350.0	349.7	349.4
147.5°	367.7	367.7	367.7	367.4	367.0	366.5	366.0	365.5
150°	377.9	377.9	377.9	377.7	377.2	376.8	376.3	375.8
152.5°	387.3	387.5	387.6	387.4	387.0	386.6	386.2	385.8
155°	401.0	401.3	401.7	401.5	401.0	400.4	399.9	399.3
157.5°	412.8	413.2	413.5	413.4	413.0	412.6	412.1	411.7
160°	420.1	420.5	420.9	420.9	420.6	420.3	420.0	419.7
162.5°	427.0	427.4	427.8	427.7	427.2	426.7	426.2	425.7
165°	435.7	436.1	436.6	436.6	436.0	435.5	434.8	434.3
167.5°	442.6	443.1	443.6	443.6	443.1	442.6	442.1	441.7
170°	446.5	447.1	447.6	447.6	447.1	446.5	446.0	445.4
172.5°	449.5	450.0	450.5	450.5	449.9	449.4	448.8	448.3
175°	452.7	453.2	453.7	453.6	453.1	452.5	452.0	451.4
177.5°	454.2	454.5	454.9	454.9	454.5	454.0	453.6	453.1
180°	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3

(END OF REPORT)