

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: P332292-840

Luminaire Tested: **S123RDIP-S560D1025U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332292-840  
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-S560D1025U840-4F0-1E-UDD-F1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5714.0 lumens  
Efficiency: N/A  
Efficacy: 128.4 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-Indirect

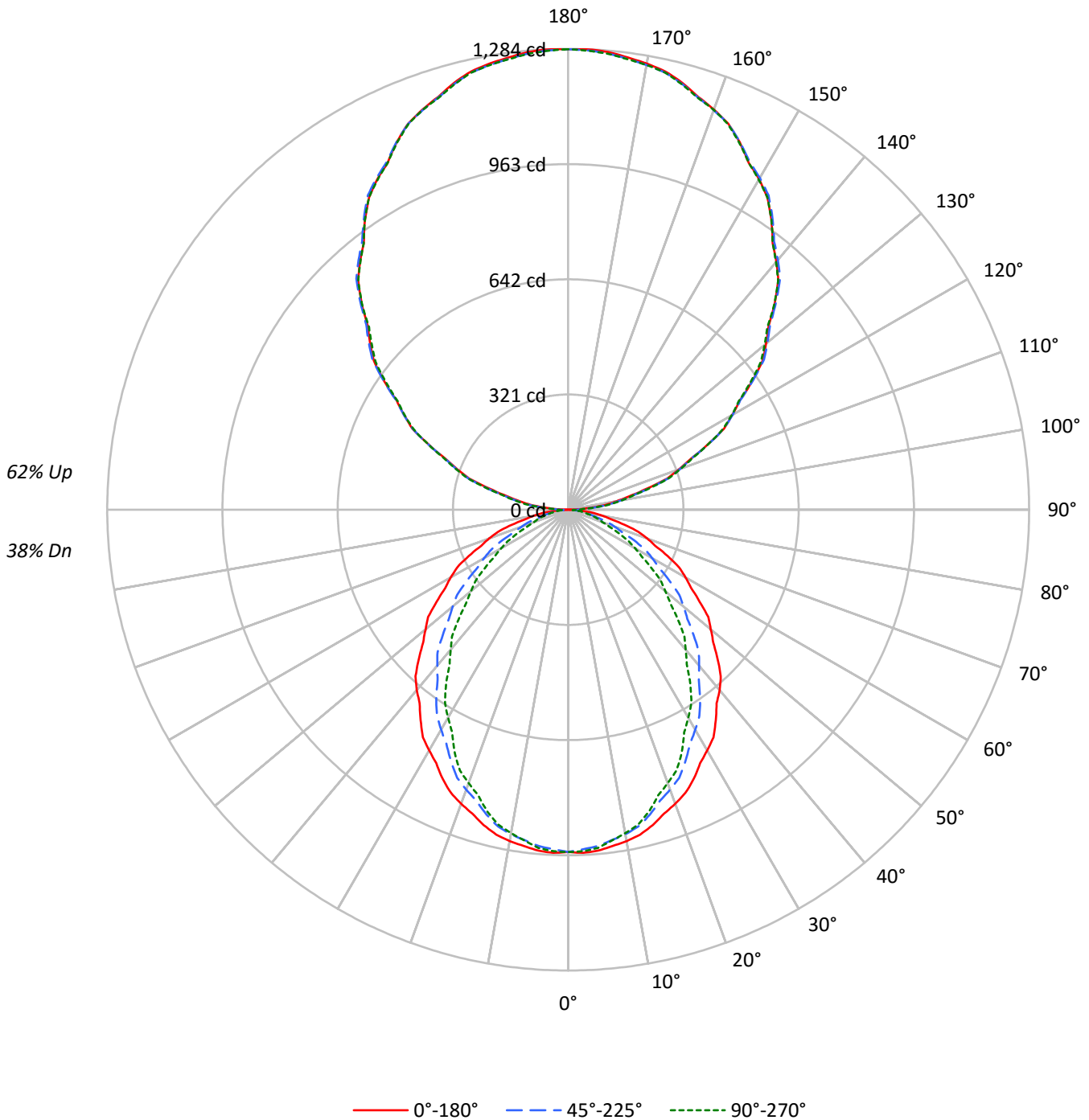
Input Watts (W): 44.5  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	104	104	104	104	95	95	95	95	77	77	77		60	60	60		45	45	45	38
1	95	91	87	84	86	83	80	77	67	65	63		53	52	50		40	39	38	32
2	87	80	74	69	79	73	68	63	59	56	53		47	45	42		35	34	33	27
3	79	70	63	58	72	64	58	53	52	48	45		42	39	36		32	30	28	23
4	73	62	55	49	66	57	50	45	47	42	38		37	34	31		28	26	24	20
5	67	56	48	42	60	51	44	39	42	37	33		33	30	27		26	23	21	18
6	61	50	42	36	56	46	39	34	38	33	29		30	27	24		23	21	19	16
7	57	45	37	32	51	41	34	30	34	29	25		28	24	21		21	19	17	14
8	53	41	33	28	48	37	31	26	31	26	22		25	21	19		20	17	15	13
9	49	37	30	25	45	34	28	23	29	24	20		23	20	17		18	16	14	11
10	46	34	27	22	42	31	25	21	26	21	18		21	18	15		17	14	12	10

**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



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	89.6	1.6
10°-20°	249.2	4.4
20°-30°	358.8	6.3
30°-40°	404.2	7.1
40°-50°	386.7	6.8
50°-60°	316.7	5.5
60°-70°	213.7	3.7
70°-80°	107.5	1.9
80°-90°	32.2	0.6
90°-100°	83.6	1.5
100°-110°	250.2	4.4
110°-120°	425.6	7.4
120°-130°	559.8	9.8
130°-140°	629.2	11.0
140°-150°	618.5	10.8
150°-160°	520.7	9.1
160°-170°	346.6	6.1
170°-180°	121.4	2.1
0°-30°	697.6	12.2
0°-40°	1101.8	19.3
0°-60°	1805.2	31.6
0°-90°	2158.6	37.8
90°-120°	759.4	13.3
90°-150°	2566.9	44.9
90°-180°	3555.0	62.2
0°-180°	5714.0	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°	1	11	24	28	30	6
95°	60	67	75	78	79	67
105°	227	229	238	238	240	243
115°	428	431	429	430	429	424
125°	627	630	628	624	620	559
135°	814	819	818	815	812	627
145°	987	989	992	991	987	616
155°	1130	1130	1131	1134	1128	520
165°	1231	1228	1228	1233	1227	347
175°	1280	1276	1276	1282	1275	122
180°	1283	1283	1283	1283	1283	



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**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°	15.0	14.0	12.9	11.8	10.8	10.6	11.1	11.7	12.3	12.9	12.9
90°	1.0	3.2	5.5	7.8	10.0	12.5	15.5	18.4	21.3	24.2	25.0
92.5°	24.4	26.0	27.5	29.0	30.5	32.1	33.7	35.3	37.1	38.7	39.4
95°	59.5	61.0	62.6	64.2	65.7	67.5	69.2	71.0	72.8	74.6	75.5
97.5°	105.6	106.8	108.0	109.2	110.3	111.5	112.8	114.1	115.4	116.7	117.8
100°	137.1	138.5	139.8	141.1	142.5	143.7	144.8	145.9	147.0	148.1	148.9
102.5°	173.4	174.2	175.0	175.8	176.6	177.7	179.3	180.7	182.2	183.7	184.3
105°	226.8	227.2	227.7	228.1	228.6	229.8	231.9	233.9	235.9	237.9	237.9
107.5°	288.9	289.2	289.4	289.7	290.0	290.5	291.3	292.2	293.0	293.8	294.5
110°	327.6	328.1	328.5	328.9	329.4	329.8	330.3	330.7	331.2	331.6	332.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	367.9	368.2	368.5	368.7	369.0	369.2	369.3	369.4	369.5	369.5	370.6
115°	428.4	429.1	429.8	430.4	431.1	431.2	430.8	430.3	429.9	429.4	429.7
117.5°	489.3	489.8	490.2	490.7	491.1	491.0	490.5	489.9	489.3	488.7	488.7
120°	527.3	528.6	529.9	531.3	532.6	532.7	531.6	530.5	529.4	528.3	528.0
122.5°	566.7	567.7	568.7	569.7	570.7	570.9	570.3	569.7	569.2	568.6	567.9
125°	627.0	627.7	628.3	629.0	629.7	629.9	629.3	628.9	628.4	628.0	627.1
127.5°	682.7	684.1	685.5	686.9	688.4	688.8	688.3	687.9	687.4	686.9	685.6
130°	719.7	721.5	723.4	725.1	726.9	727.5	726.8	726.1	725.5	724.8	723.9
132.5°	756.9	758.6	760.4	762.2	764.1	764.7	764.2	763.7	763.2	762.7	761.6
135°	813.5	814.9	816.2	817.5	818.9	819.4	819.2	819.0	818.8	818.5	817.7
137.5°	866.0	867.1	868.2	869.3	870.4	871.2	871.8	872.4	873.0	873.5	872.6
140°	902.2	903.3	904.4	905.5	906.7	907.4	907.6	907.8	908.1	908.3	908.1
142.5°	935.2	936.3	937.6	938.7	939.8	940.5	940.9	941.3	941.7	942.1	941.9
145°	986.8	987.3	987.7	988.3	988.7	989.3	989.9	990.6	991.3	991.9	991.7
147.5°	1032.1	1032.9	1033.7	1034.5	1035.3	1036.0	1036.6	1037.2	1037.8	1038.5	1038.5
150°	1063.5	1064.0	1064.4	1064.8	1065.3	1065.7	1066.2	1066.6	1067.1	1067.5	1067.5
152.5°	1089.3	1089.9	1090.6	1091.2	1091.8	1092.3	1092.6	1092.8	1093.1	1093.4	1093.7
155°	1130.0	1130.0	1130.0	1130.0	1130.0	1130.1	1130.3	1130.5	1130.8	1131.0	1132.0
157.5°	1164.7	1164.5	1164.2	1163.9	1163.7	1163.6	1163.8	1164.0	1164.2	1164.3	1165.3
160°	1186.5	1186.0	1185.6	1185.2	1184.7	1184.5	1184.5	1184.5	1184.5	1184.5	1185.6
162.5°	1205.9	1205.2	1204.6	1204.0	1203.4	1203.2	1203.3	1203.5	1203.7	1203.9	1205.0
165°	1230.8	1230.1	1229.5	1228.8	1228.2	1227.8	1227.8	1227.8	1227.8	1227.8	1229.1
167.5°	1250.8	1249.9	1249.0	1248.1	1247.2	1246.9	1247.1	1247.2	1247.4	1247.6	1249.0
170°	1262.1	1261.2	1260.3	1259.4	1258.5	1258.1	1258.1	1258.1	1258.1	1258.1	1259.6
172.5°	1270.9	1270.1	1269.2	1268.3	1267.4	1266.9	1266.9	1266.9	1266.9	1266.9	1268.3
175°	1280.2	1279.3	1278.4	1277.6	1276.7	1276.2	1276.2	1276.2	1276.2	1276.2	1277.6
177.5°	1284.0	1283.3	1282.6	1281.9	1281.2	1280.8	1280.8	1280.8	1280.8	1280.8	1281.9
180°	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2



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**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°	12.9	13.0	13.0	13.0	13.0	12.9	12.9	12.8
90°	26.0	26.9	27.8	28.5	28.9	29.4	29.8	30.2
92.5°	40.2	40.9	41.6	41.8	41.5	41.3	41.0	40.7
95°	76.3	77.3	78.2	78.7	78.7	78.7	78.7	78.7
97.5°	118.8	119.9	120.9	121.3	121.3	121.2	121.1	121.0
100°	149.6	150.2	150.9	151.5	151.9	152.3	152.8	153.2
102.5°	185.0	185.7	186.3	186.6	186.5	186.4	186.4	186.3
105°	237.9	237.9	237.9	238.1	238.5	239.0	239.4	239.9
107.5°	295.2	295.9	296.6	296.8	296.6	296.3	296.0	295.8
110°	333.5	334.4	335.3	335.5	335.0	334.6	334.2	333.7





TEST NUMBER: P332292-840

CATALOG NUMBER: S123RDIP-S560D1025U840-4F0-1E-UDD-F1

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	371.7	372.7	373.9	374.4	374.3	374.2	374.1	374.0
115°	429.9	430.1	430.3	430.3	430.1	429.9	429.7	429.4
117.5°	488.6	488.6	488.6	488.2	487.6	487.0	486.4	485.6
120°	527.8	527.6	527.4	526.9	526.5	526.1	525.6	525.2
122.5°	567.3	566.8	566.2	565.6	565.0	564.3	563.7	563.1
125°	626.2	625.3	624.4	623.5	622.7	621.8	620.9	620.0
127.5°	684.4	683.2	681.9	680.8	679.7	678.6	677.6	676.6
130°	723.0	722.1	721.2	719.9	718.4	716.8	715.3	713.7
132.5°	760.5	759.5	758.4	757.3	756.1	754.9	753.7	752.5
135°	816.8	815.9	815.0	814.3	813.9	813.3	812.9	812.5
137.5°	871.7	870.8	869.8	868.9	868.1	867.2	866.4	865.6
140°	907.8	907.6	907.4	906.5	904.9	903.3	901.8	900.2
142.5°	941.7	941.5	941.2	940.5	939.3	938.1	936.9	935.6
145°	991.5	991.3	991.0	990.5	989.6	988.7	987.7	986.8
147.5°	1038.5	1038.5	1038.5	1037.8	1036.5	1035.1	1033.8	1032.5
150°	1067.5	1067.5	1067.5	1066.8	1065.5	1064.2	1062.8	1061.5
152.5°	1094.1	1094.4	1094.8	1094.4	1093.2	1092.1	1090.9	1089.7
155°	1132.9	1133.8	1134.6	1134.3	1132.8	1131.1	1129.5	1128.0
157.5°	1166.2	1167.1	1168.1	1167.9	1166.7	1165.4	1164.2	1162.9
160°	1186.7	1187.8	1188.9	1189.0	1188.2	1187.3	1186.4	1185.5
162.5°	1206.1	1207.2	1208.3	1208.1	1206.7	1205.3	1203.9	1202.4
165°	1230.5	1231.8	1233.1	1233.0	1231.5	1229.9	1228.4	1226.8
167.5°	1250.3	1251.7	1253.1	1253.1	1251.7	1250.3	1249.0	1247.6
170°	1261.2	1262.7	1264.4	1264.4	1262.7	1261.2	1259.6	1258.1
172.5°	1269.7	1271.1	1272.4	1272.4	1270.8	1269.3	1267.7	1266.1
175°	1278.9	1280.2	1281.6	1281.4	1279.9	1278.3	1276.8	1275.2
177.5°	1283.0	1284.0	1285.2	1285.1	1283.8	1282.5	1281.3	1280.0
180°	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2	1283.2

(END OF REPORT)