

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: P332291-935

Luminaire Tested: **S123RDIP-S560D1025U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332291-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S560D1025U935-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1025 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5367.9 lumens
Efficiency: N/A
Efficacy: 120.6 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-Indirect

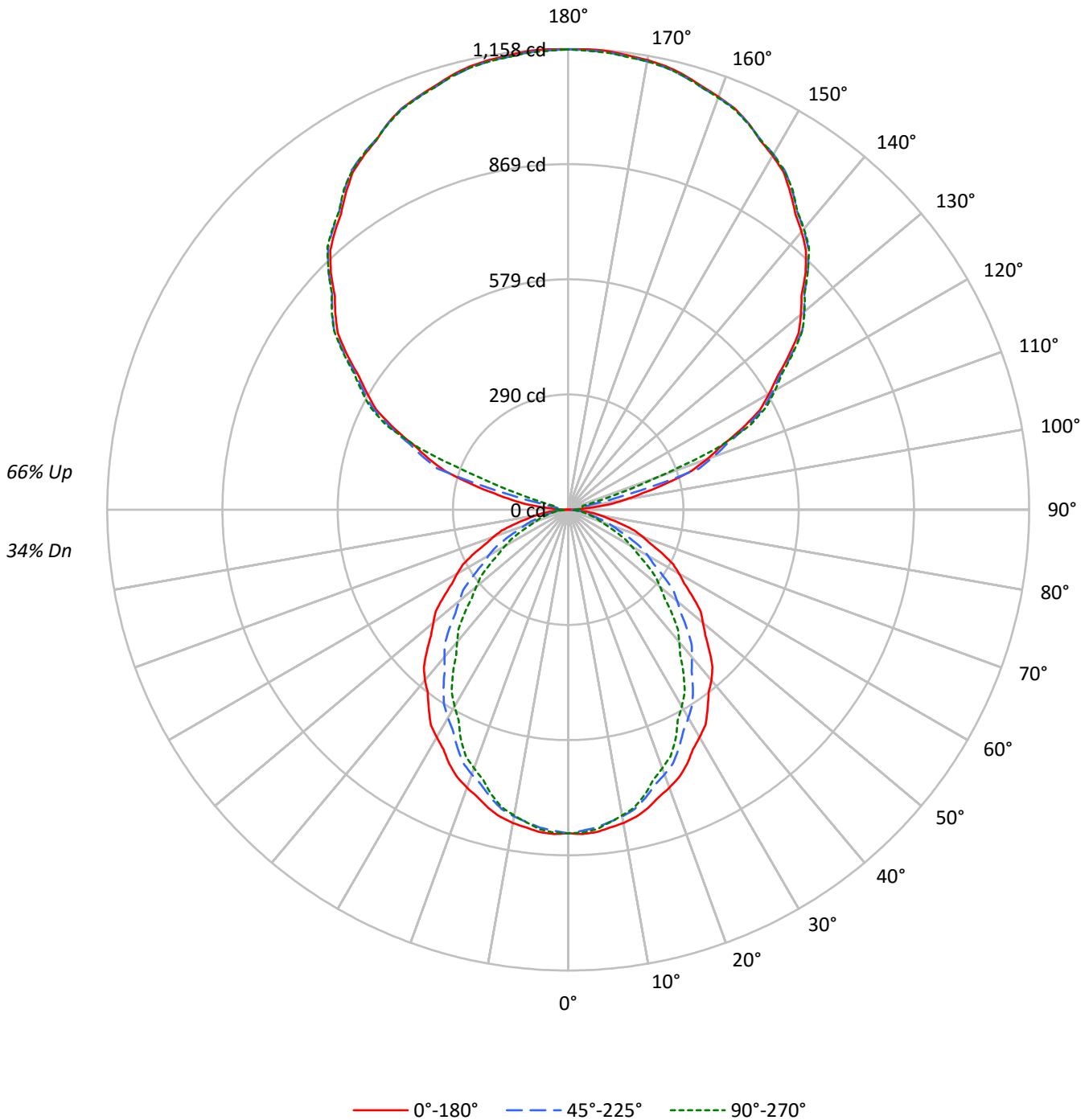
Input Watts (W): 44.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	75	75	75	57	57	57	42	42	42	34
1	94	90	87	83	85	82	79	76	66	63	62	51	49	48	37	36	36	29
2	86	79	73	68	78	72	67	62	58	54	51	45	43	41	33	32	30	25
3	79	70	63	57	71	63	57	52	51	47	43	40	37	34	29	28	26	21
4	72	62	54	48	65	56	50	44	45	41	37	36	32	30	26	24	23	18
5	66	55	47	41	60	50	43	38	41	36	32	32	28	26	24	22	20	16
6	61	49	41	36	55	45	38	33	37	32	28	29	25	23	22	19	17	14
7	56	44	37	31	51	41	34	29	33	28	24	26	23	20	20	17	16	13
8	52	40	33	28	47	37	30	26	30	25	22	24	20	18	18	16	14	11
9	49	37	29	25	44	34	27	23	28	23	19	22	19	16	17	14	13	10
10	45	34	27	22	41	31	25	20	25	21	17	20	17	14	16	13	11	9

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



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.4	1.4
10°-20°	212.5	4.0
20°-30°	305.9	5.7
30°-40°	344.6	6.4
40°-50°	329.7	6.1
50°-60°	270.0	5.0
60°-70°	182.2	3.4
70°-80°	91.6	1.7
80°-90°	27.5	0.5
90°-100°	42.1	0.8
100°-110°	200.4	3.7
110°-120°	481.5	9.0
120°-130°	613.1	11.4
130°-140°	655.1	12.2
140°-150°	612.6	11.4
150°-160°	494.1	9.2
160°-170°	318.9	5.9
170°-180°	109.9	2.0
0°-30°	594.8	11.1
0°-40°	939.4	17.5
0°-60°	1539.1	28.7
0°-90°	1840.4	34.3
90°-120°	724.0	13.5
90°-150°	2604.6	48.5
90°-180°	3528.0	65.7
0°-180°	5367.9	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°	1	10	21	24	26	4
95°	52	20	27	32	33	65
105°	256	261	188	45	38	272
115°	480	486	493	502	505	474
125°	677	684	688	689	691	605
135°	843	848	852	854	852	649
145°	973	979	981	982	982	609
155°	1072	1070	1071	1075	1070	494
165°	1130	1128	1127	1133	1128	319
175°	1157	1153	1153	1159	1152	110
180°	1157	1157	1157	1157	1157	



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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°	12.8	12.0	11.0	10.1	9.2	9.0	9.5	10.0	10.5	11.0	11.0
90°	0.9	2.8	4.6	6.6	8.5	10.7	13.2	15.7	18.2	20.7	21.4
92.5°	16.0	15.4	14.9	14.4	13.9	14.6	16.4	18.3	20.1	22.0	23.2
95°	52.4	44.6	36.8	28.9	21.1	18.3	20.3	22.5	24.5	26.6	28.0
97.5°	105.4	101.9	98.3	94.8	91.3	82.7	69.0	55.2	41.4	27.6	29.2
100°	145.3	149.0	152.9	156.7	160.5	147.5	117.7	87.9	58.1	28.3	29.9
102.5°	190.6	193.4	196.1	198.9	201.6	186.8	154.2	121.7	89.1	56.6	51.8
105°	256.1	258.2	260.3	262.4	264.5	256.9	239.8	222.6	205.4	188.2	154.4
107.5°	325.2	326.9	328.6	330.3	331.9	334.2	336.8	339.6	342.2	345.0	320.2
110°	371.3	372.8	374.3	375.8	377.4	379.2	381.3	383.4	385.5	387.6	381.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	415.3	416.6	418.0	419.4	420.8	422.5	424.6	426.7	428.8	430.9	431.0
115°	480.4	481.6	482.7	483.9	485.0	486.5	488.1	489.8	491.5	493.3	495.2
117.5°	543.5	544.9	546.3	547.8	549.1	550.3	551.1	552.1	552.9	553.8	555.3
120°	582.6	584.4	586.1	587.8	589.5	590.7	591.2	591.9	592.5	593.0	594.5
122.5°	622.6	624.0	625.3	626.8	628.2	629.3	630.0	630.8	631.5	632.1	633.3
125°	677.2	678.7	680.3	681.8	683.3	684.5	685.3	686.0	686.7	687.5	687.9
127.5°	730.1	731.7	733.2	734.7	736.2	737.4	738.4	739.3	740.2	741.1	741.8
130°	763.2	764.7	766.2	767.8	769.3	770.4	771.2	772.0	772.7	773.4	774.2
132.5°	794.8	796.3	797.8	799.4	800.9	801.9	802.5	803.1	803.8	804.4	805.2
135°	843.1	844.2	845.3	846.5	847.7	848.6	849.4	850.2	850.9	851.7	852.2
137.5°	884.3	885.8	887.3	888.7	890.1	891.0	891.5	891.9	892.3	892.8	893.6
140°	911.8	913.0	914.1	915.2	916.4	917.3	917.8	918.4	919.0	919.5	920.3
142.5°	937.3	938.4	939.5	940.7	941.8	942.7	943.3	943.8	944.4	945.0	945.6
145°	972.8	974.2	975.5	976.9	978.2	979.0	979.5	979.8	980.2	980.6	980.9
147.5°	1006.3	1007.3	1008.1	1009.0	1009.9	1010.5	1010.9	1011.2	1011.7	1012.0	1012.4
150°	1027.0	1027.6	1028.1	1028.7	1029.2	1029.8	1030.1	1030.5	1030.9	1031.3	1031.7
152.5°	1045.5	1045.9	1046.1	1046.4	1046.6	1046.9	1047.1	1047.3	1047.6	1047.8	1048.4
155°	1071.7	1071.3	1070.9	1070.6	1070.1	1070.1	1070.2	1070.4	1070.7	1070.8	1071.8
157.5°	1091.9	1091.9	1091.9	1091.8	1091.8	1091.7	1091.5	1091.3	1091.1	1090.9	1092.1
160°	1104.3	1104.1	1104.0	1103.8	1103.5	1103.4	1103.2	1103.0	1102.8	1102.6	1103.8
162.5°	1116.0	1115.5	1115.0	1114.6	1114.0	1113.7	1113.5	1113.3	1113.1	1112.9	1114.2
165°	1130.1	1129.5	1128.9	1128.4	1127.8	1127.5	1127.2	1127.0	1126.9	1126.7	1128.2
167.5°	1141.1	1140.4	1139.6	1138.8	1138.1	1137.6	1137.6	1137.6	1137.6	1137.6	1139.2
170°	1147.3	1146.5	1145.8	1145.0	1144.3	1143.8	1143.8	1143.8	1143.8	1143.8	1145.4
172.5°	1151.4	1150.6	1149.6	1148.7	1147.8	1147.4	1147.5	1147.7	1147.8	1148.0	1149.5
175°	1156.8	1155.8	1154.9	1153.9	1153.0	1152.5	1152.7	1153.0	1153.1	1153.3	1154.7
177.5°	1158.1	1157.4	1156.6	1155.8	1155.1	1154.8	1154.9	1155.1	1155.2	1155.4	1156.6
180°	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8



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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°	11.0	11.1	11.1	11.1	11.1	11.0	11.0	10.9
90°	22.1	22.9	23.7	24.3	24.6	25.1	25.4	25.7
92.5°	24.5	25.7	26.9	27.6	27.8	28.1	28.3	28.5
95°	29.3	30.7	32.0	32.6	32.6	32.6	32.6	32.6
97.5°	30.7	32.3	33.8	34.6	34.9	35.0	35.2	35.4
100°	31.4	33.0	34.4	35.3	35.6	35.7	35.9	36.1
102.5°	47.1	42.4	37.6	35.4	35.7	36.1	36.4	36.8
105°	120.6	86.8	53.0	36.2	36.7	37.0	37.5	37.8
107.5°	295.4	270.6	245.8	220.7	195.2	169.7	144.2	118.7
110°	375.0	368.7	362.4	345.6	318.2	290.9	263.6	236.3



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CATALOG NUMBER: S123RDIP-S560D1025U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	431.1	431.3	431.4	428.5	422.8	417.0	411.2	405.4
115°	497.1	499.0	500.9	502.3	503.0	503.8	504.5	505.3
117.5°	556.9	558.4	559.9	560.8	560.9	561.0	561.2	561.4
120°	596.1	597.5	599.1	599.9	599.9	599.9	599.9	599.9
122.5°	634.3	635.4	636.5	637.1	637.2	637.4	637.5	637.7
125°	688.3	688.6	689.1	689.4	689.8	690.2	690.6	691.0
127.5°	742.4	743.0	743.6	743.7	743.3	743.0	742.5	742.2
130°	775.0	775.8	776.5	776.7	776.4	775.9	775.6	775.2
132.5°	805.9	806.7	807.4	807.5	807.0	806.5	806.0	805.5
135°	852.8	853.4	853.9	853.9	853.4	852.8	852.2	851.7
137.5°	894.6	895.5	896.4	896.6	896.3	896.0	895.5	895.2
140°	921.1	921.9	922.6	922.8	922.4	922.0	921.7	921.3
142.5°	946.2	946.8	947.4	947.4	946.9	946.4	945.9	945.4
145°	981.4	981.7	982.1	982.3	982.3	982.3	982.3	982.3
147.5°	1012.8	1013.1	1013.6	1013.3	1012.4	1011.6	1010.6	1009.8
150°	1032.1	1032.4	1032.9	1032.7	1032.2	1031.6	1031.0	1030.4
152.5°	1049.1	1049.8	1050.5	1050.4	1049.6	1048.7	1047.8	1046.9
155°	1072.7	1073.7	1074.6	1074.5	1073.4	1072.3	1071.1	1070.0
157.5°	1093.2	1094.3	1095.5	1095.4	1093.8	1092.4	1090.9	1089.4
160°	1104.9	1106.0	1107.2	1107.1	1105.8	1104.4	1103.1	1101.7
162.5°	1115.5	1116.8	1118.1	1118.2	1117.0	1115.8	1114.7	1113.4
165°	1129.7	1131.3	1132.8	1132.9	1131.5	1130.2	1128.9	1127.6
167.5°	1140.7	1142.3	1143.8	1143.8	1142.3	1140.7	1139.2	1137.6
170°	1146.9	1148.5	1150.0	1150.0	1148.5	1146.9	1145.4	1143.8
172.5°	1151.1	1152.5	1154.1	1154.0	1152.4	1150.6	1149.0	1147.3
175°	1156.0	1157.4	1158.6	1158.6	1157.0	1155.5	1154.0	1152.4
177.5°	1157.8	1159.1	1160.3	1160.1	1158.6	1157.1	1155.5	1154.0
180°	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8	1156.8

(END OF REPORT)