

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: P332134-935

Luminaire Tested: **S123DIW-S560D1030U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332134-935  
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: S123DIW-S560D1030U935-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1030 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

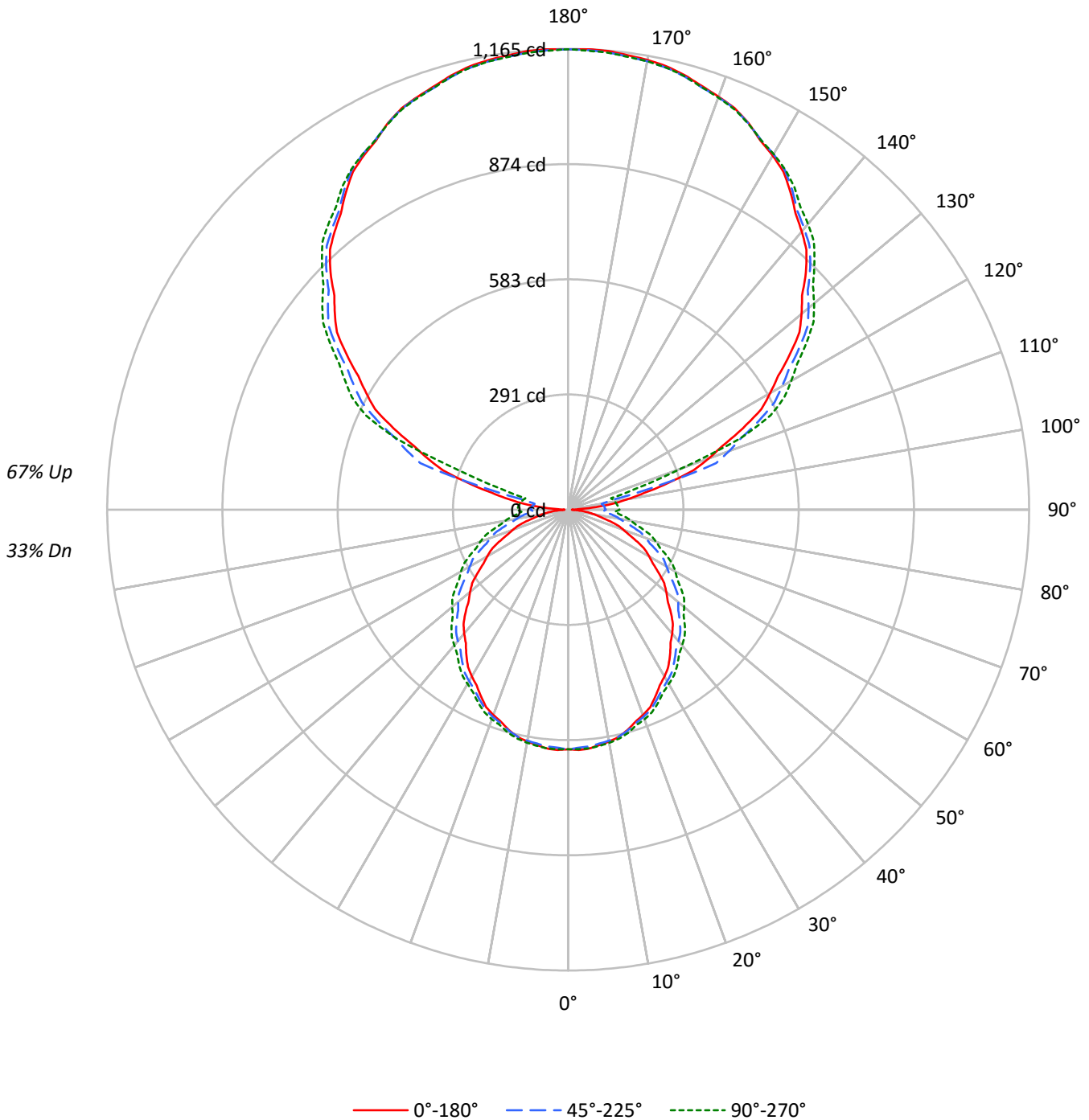
Lumens per Lamp: N/A  
Luminaire Lumens: 5587.5 lumens  
Efficiency: N/A  
Efficacy: 123.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect  
  
Input Watts (W): 45.2  
Input Voltage (V): 120  
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





TEST NUMBER: P332134-935

CATALOG NUMBER: S123DIW-S560D1030U935-4F0-1E-UDD-D

**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	74	74	74	57	57	57	41	41	41	33
1	93	89	85	81	84	80	77	74	64	61	59	49	47	46	35	34	33	27
2	85	77	71	66	76	70	64	60	55	52	48	42	40	38	30	29	27	22
3	77	68	60	54	69	61	55	50	49	44	40	37	34	31	27	25	23	18
4	70	60	52	46	63	54	47	42	43	38	34	33	30	27	24	21	20	15
5	64	53	45	39	58	48	41	36	38	33	29	29	26	23	21	19	17	13
6	59	47	39	33	53	43	36	31	34	29	25	27	23	20	19	17	15	12
7	55	42	35	29	49	39	32	27	31	26	22	24	20	18	17	15	13	10
8	51	38	31	25	45	35	28	23	28	23	19	22	18	16	16	13	12	9
9	47	35	28	23	42	32	25	21	26	21	17	20	16	14	15	12	10	8
10	44	32	25	20	39	29	23	19	24	19	15	19	15	12	14	11	9	7

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	6518	6518	6518
5°	6537	6352	6357
10°	6480	6207	6175
15°	6395	6040	5978
20°	6277	5850	5760
25°	6129	5632	5532
30°	5977	5436	5300
35°	5809	5228	5116
40°	5647	5038	4917
45°	5468	4857	4759
50°	5291	4678	4584
55°	5097	4494	4428
60°	4906	4308	4266
65°	4710	4109	4076
70°	4418	3885	3878
75°	4048	3629	3679
80°	3620	3378	3451
85°	3222	3204	3317



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.4	1.0
10°-20°	163.6	2.9
20°-30°	244.7	4.4
30°-40°	292.2	5.2
40°-50°	305.8	5.5
50°-60°	286.9	5.1
60°-70°	239.6	4.3
70°-80°	171.5	3.1
80°-90°	105.5	1.9
90°-100°	106.5	1.9
100°-110°	248.8	4.5
110°-120°	516.0	9.2
120°-130°	634.9	11.4
130°-140°	667.2	11.9
140°-150°	618.1	11.1
150°-160°	497.2	8.9
160°-170°	320.9	5.7
170°-180°	110.6	2.0
0°-30°	465.7	8.3
0°-40°	758.0	13.6
0°-60°	1350.7	24.2
0°-90°	1867.3	33.4
90°-120°	871.3	15.6
90°-150°	2791.6	50.0
90°-180°	3720.0	66.6
0°-180°	5587.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	606	606	606	606	606	
5°	606	605	601	606	606	57
15°	577	579	578	585	584	162
25°	521	527	530	538	538	240
35°	448	459	468	477	480	280
45°	367	383	399	411	417	283
55°	280	302	325	342	348	250
65°	193	219	248	267	274	191
75°	105	136	169	190	198	112
85°	32	65	100	122	129	34
90°	10	51	95	120	130	8
95°	60	53	92	117	125	71
105°	263	284	239	112	112	279
115°	487	501	531	555	565	480
125°	684	691	713	728	735	610
135°	850	855	865	879	880	654
145°	980	985	987	994	996	613
155°	1078	1077	1078	1081	1077	497
165°	1137	1135	1134	1140	1135	321
175°	1164	1160	1160	1166	1160	111
180°	1164	1164	1164	1164	1164	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5
2.5°	608.1	607.8	607.4	607.0	606.7	606.1	605.1	604.2	603.2	602.3	603.2
5°	606.1	605.8	605.5	605.3	604.9	604.3	603.5	602.6	601.8	600.8	602.0
7.5°	600.2	600.2	600.3	600.4	600.5	600.0	599.2	598.3	597.4	596.6	598.1
10°	595.0	595.2	595.5	595.8	596.1	595.9	595.1	594.4	593.7	593.0	594.4
12.5°	588.6	589.0	589.4	589.8	590.2	590.2	589.7	589.2	588.7	588.1	589.5
15°	577.1	577.6	578.0	578.4	578.9	579.0	578.9	578.7	578.6	578.4	579.9
17.5°	562.6	563.4	564.4	565.2	566.1	566.5	566.5	566.4	566.4	566.3	567.6
20°	552.1	552.9	553.8	554.7	555.5	556.1	556.5	556.7	557.0	557.3	558.6
22.5°	541.0	541.8	542.7	543.6	544.5	545.1	545.5	546.0	546.4	546.7	548.5
25°	521.1	522.5	524.0	525.5	526.9	527.9	528.3	528.7	529.2	529.6	531.5
27.5°	501.0	502.7	504.4	506.0	507.6	508.9	509.9	510.8	511.8	512.7	514.4
30°	486.7	488.6	490.5	492.5	494.4	495.9	497.1	498.3	499.4	500.6	502.4
32.5°	470.9	473.0	475.2	477.3	479.5	481.3	482.8	484.3	485.9	487.4	489.3
35°	448.5	450.8	453.1	455.6	457.9	460.0	461.9	463.8	465.7	467.6	469.8
37.5°	424.7	427.4	430.0	432.7	435.3	437.8	440.1	442.5	444.8	447.2	449.7
40°	408.9	411.6	414.2	416.8	419.5	422.2	425.2	428.1	431.0	433.9	436.4
42.5°	391.5	394.8	398.0	401.1	404.4	407.5	410.6	413.6	416.7	419.7	422.5
45°	366.7	370.2	373.8	377.3	380.7	384.4	388.1	391.7	395.4	399.0	401.8
47.5°	340.7	344.7	348.7	352.7	356.6	360.8	365.0	369.1	373.3	377.5	380.6
50°	323.8	328.0	332.0	336.1	340.3	344.6	349.1	353.7	358.2	362.7	366.1
52.5°	305.9	310.2	314.6	318.9	323.2	328.0	332.9	337.9	342.9	348.0	351.5
55°	279.7	284.5	289.3	294.1	299.0	304.0	309.4	314.6	319.9	325.1	329.1
57.5°	254.1	259.1	264.2	269.1	274.2	279.7	285.4	291.2	297.0	302.7	306.7
60°	236.1	241.4	246.7	251.9	257.2	262.9	268.9	274.9	280.9	286.9	291.0
62.5°	219.2	224.6	230.1	235.4	240.8	246.7	253.0	259.4	265.8	272.2	276.2
65°	193.2	199.0	204.7	210.4	216.1	222.2	228.7	235.1	241.5	248.0	252.4
67.5°	166.9	173.0	179.0	185.0	191.1	197.4	204.1	210.6	217.1	223.7	228.5
70°	148.4	154.7	161.0	167.3	173.6	180.3	187.3	194.3	201.4	208.4	213.1
72.5°	131.5	137.8	144.1	150.4	156.7	163.5	170.7	178.1	185.3	192.6	197.4
75°	104.9	111.8	118.6	125.5	132.4	139.6	146.9	154.2	161.5	168.8	173.7
77.5°	81.6	88.6	95.6	102.5	109.4	116.6	124.0	131.4	138.8	146.2	151.3
80°	65.3	72.5	79.6	86.9	94.0	101.4	109.0	116.7	124.3	131.9	136.9
82.5°	51.1	58.4	65.6	72.9	80.2	87.7	95.5	103.2	111.0	118.7	123.7
85°	32.3	39.6	47.0	54.3	61.6	69.1	77.0	84.7	92.5	100.2	105.2
87.5°	17.7	25.4	33.1	40.7	48.5	56.3	64.2	72.2	80.2	88.2	93.3
90°	9.5	18.5	27.6	36.8	45.9	55.4	65.3	75.3	85.3	95.3	101.0
92.5°	24.1	30.0	36.0	41.9	47.9	55.4	64.7	74.0	83.2	92.5	98.6
95°	60.0	57.9	55.7	53.6	51.3	54.9	64.2	73.5	82.8	92.1	98.0
97.5°	112.4	114.1	115.7	117.4	119.0	116.3	109.3	102.4	95.4	88.4	94.3
100°	152.1	160.7	169.2	177.7	186.2	178.8	155.7	132.4	109.2	85.9	91.7
102.5°	197.3	204.2	211.2	218.2	225.2	215.6	189.5	163.3	137.2	111.2	110.5
105°	262.9	268.6	274.2	279.9	285.5	282.8	271.8	260.9	249.9	238.8	209.0
107.5°	331.7	336.4	341.0	345.8	350.4	357.1	365.8	374.5	383.2	392.0	370.9
110°	377.5	381.7	385.9	390.0	394.3	400.4	408.3	416.3	424.2	432.2	429.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	421.8	425.4	429.0	432.5	436.0	441.7	449.4	457.2	464.9	472.7	476.5
115°	486.7	489.7	492.6	495.4	498.3	503.3	510.3	517.4	524.3	531.3	536.7
117.5°	550.1	552.6	555.1	557.6	560.1	564.3	570.1	575.9	581.8	587.6	592.6
120°	589.0	591.4	593.9	596.3	598.8	602.8	608.2	613.5	619.0	624.4	629.3
122.5°	629.1	630.9	632.7	634.5	636.3	639.9	645.2	650.6	655.9	661.2	665.6
125°	683.5	685.0	686.5	688.0	689.6	692.8	697.8	702.9	707.9	712.9	716.4
127.5°	736.7	738.1	739.5	740.9	742.3	745.2	749.6	754.1	758.5	762.9	766.5
130°	769.9	771.3	772.7	774.1	775.5	778.0	781.7	785.4	789.1	792.8	796.3
132.5°	801.2	802.7	804.3	805.7	807.3	809.5	812.4	815.4	818.4	821.3	824.8
135°	849.7	850.7	851.7	852.7	853.7	855.4	857.8	860.1	862.5	865.0	868.1
137.5°	891.0	892.4	893.7	895.1	896.5	897.8	899.1	900.4	901.7	903.1	906.4
140°	918.2	919.4	920.5	921.7	922.8	923.9	924.9	925.9	927.0	928.0	930.9
142.5°	943.8	944.9	945.9	946.9	948.0	948.8	949.4	950.1	950.8	951.5	954.1
145°	979.6	980.8	982.0	983.2	984.4	985.2	985.6	985.9	986.4	986.7	988.3
147.5°	1012.7	1013.6	1014.4	1015.3	1016.2	1016.8	1017.2	1017.6	1018.0	1018.4	1019.1
150°	1033.5	1034.0	1034.6	1035.2	1035.7	1036.2	1036.6	1037.0	1037.3	1037.8	1038.1
152.5°	1052.1	1052.4	1052.7	1052.9	1053.2	1053.4	1053.7	1053.9	1054.1	1054.4	1055.1
155°	1078.4	1078.0	1077.6	1077.3	1076.9	1076.8	1076.9	1077.1	1077.4	1077.5	1078.5
157.5°	1098.8	1098.8	1098.7	1098.7	1098.6	1098.5	1098.4	1098.1	1097.9	1097.8	1098.9
160°	1111.3	1111.0	1110.9	1110.7	1110.5	1110.3	1110.1	1109.9	1109.7	1109.6	1110.7
162.5°	1123.0	1122.5	1122.1	1121.5	1121.0	1120.7	1120.5	1120.3	1120.1	1119.9	1121.2
165°	1137.2	1136.6	1136.1	1135.5	1134.9	1134.5	1134.3	1134.1	1133.9	1133.8	1135.3
167.5°	1148.2	1147.5	1146.8	1146.0	1145.2	1144.8	1144.8	1144.8	1144.8	1144.8	1146.3
170°	1154.5	1153.7	1153.0	1152.2	1151.4	1151.1	1151.1	1151.1	1151.1	1151.1	1152.5
172.5°	1158.6	1157.7	1156.8	1155.9	1154.9	1154.6	1154.7	1154.9	1155.0	1155.2	1156.8
175°	1164.0	1163.0	1162.1	1161.1	1160.2	1159.8	1159.9	1160.2	1160.4	1160.5	1161.9
177.5°	1165.4	1164.6	1163.9	1163.1	1162.4	1162.0	1162.2	1162.4	1162.4	1162.6	1163.9
180°	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5
2.5°	604.2	605.1	606.1	606.5	606.3	606.2	606.1	606.0
5°	603.2	604.3	605.5	606.1	605.9	605.7	605.6	605.5
7.5°	599.5	601.0	602.5	603.1	603.0	602.8	602.6	602.4
10°	595.9	597.4	598.8	599.3	599.1	598.8	598.5	598.2
12.5°	590.9	592.2	593.6	594.1	593.8	593.5	593.2	593.0
15°	581.3	582.8	584.3	585.0	584.8	584.6	584.5	584.4
17.5°	568.9	570.2	571.5	572.1	571.9	571.7	571.5	571.3
20°	560.0	561.3	562.6	563.4	563.4	563.6	563.8	563.9
22.5°	550.1	551.8	553.5	554.2	554.1	554.1	554.0	553.9
25°	533.4	535.4	537.3	538.2	538.2	538.2	538.2	538.2
27.5°	516.0	517.6	519.3	520.2	520.3	520.4	520.6	520.6
30°	504.1	505.8	507.6	508.5	508.5	508.5	508.5	508.5
32.5°	491.1	493.0	494.9	496.0	496.4	496.7	497.1	497.4
35°	472.0	474.2	476.4	477.8	478.4	479.0	479.6	480.2
37.5°	452.1	454.6	457.1	458.7	459.1	459.5	460.0	460.5
40°	438.9	441.4	443.9	445.5	446.1	446.7	447.2	447.8
42.5°	425.2	427.9	430.7	432.4	433.3	434.0	434.9	435.7
45°	404.6	407.3	410.2	412.2	413.3	414.5	415.7	416.8
47.5°	383.8	386.9	390.0	392.1	393.0	393.9	394.9	395.7
50°	369.5	372.9	376.3	378.4	379.4	380.5	381.5	382.5
52.5°	355.0	358.4	362.0	364.3	365.6	366.8	368.1	369.4
55°	333.0	337.0	341.0	343.5	344.7	345.9	347.1	348.3
57.5°	310.7	314.7	318.7	321.3	322.7	324.1	325.5	326.8
60°	295.2	299.2	303.3	306.2	307.8	309.4	311.0	312.6
62.5°	280.3	284.5	288.5	291.4	292.8	294.3	295.8	297.3
65°	256.8	261.1	265.6	268.5	270.0	271.5	272.9	274.4
67.5°	233.3	238.2	243.0	246.0	247.2	248.4	249.7	250.9
70°	217.8	222.5	227.2	230.2	231.7	233.2	234.6	236.1
72.5°	202.2	207.0	211.8	215.0	216.5	217.9	219.4	220.8
75°	178.5	183.4	188.2	191.5	193.2	195.0	196.7	198.5
77.5°	156.4	161.4	166.5	169.8	171.2	172.5	173.8	175.2
80°	141.9	146.9	151.9	155.1	156.5	158.0	159.5	160.9
82.5°	128.7	133.6	138.6	141.9	143.4	144.8	146.3	147.7
85°	110.2	115.2	120.2	123.4	124.8	126.3	127.8	129.2
87.5°	98.4	103.6	108.7	112.1	113.6	115.1	116.7	118.2
90°	106.8	112.5	118.3	122.1	124.0	125.8	127.6	129.5
92.5°	104.6	110.7	116.8	120.6	122.3	123.8	125.4	127.0
95°	103.9	109.8	115.6	119.3	120.8	122.3	123.7	125.2
97.5°	100.2	106.1	112.0	115.8	117.4	119.1	120.8	122.4
100°	97.5	103.3	109.1	112.8	114.4	116.1	117.8	119.4
102.5°	109.9	109.3	108.6	109.2	111.0	112.8	114.6	116.4
105°	179.0	149.1	119.2	105.1	106.9	108.5	110.2	111.9
107.5°	349.9	328.9	307.9	285.2	260.9	236.5	212.2	187.9
110°	427.1	424.6	422.1	407.7	381.3	355.1	328.7	302.5





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CATALOG NUMBER: S123DIW-S560D1030U935-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	480.3	484.1	487.9	487.5	483.0	478.5	474.0	469.5
115°	542.3	547.7	553.1	556.8	558.7	560.7	562.6	564.6
117.5°	597.7	602.7	607.7	610.9	612.2	613.5	614.8	616.0
120°	634.2	639.1	644.0	647.0	648.1	649.0	650.1	651.1
122.5°	669.9	674.2	678.6	681.3	682.4	683.6	684.8	686.0
125°	719.9	723.3	726.8	729.3	730.6	732.0	733.5	734.9
127.5°	770.0	773.5	777.1	779.1	779.7	780.3	780.9	781.5
130°	800.0	803.5	807.0	809.1	809.6	810.0	810.5	811.1
132.5°	828.2	831.6	835.1	837.0	837.5	837.9	838.4	838.9
135°	871.3	874.6	877.8	879.5	879.6	879.8	879.9	880.1
137.5°	909.6	912.8	916.0	917.8	918.2	918.5	918.9	919.2
140°	933.9	936.9	939.9	941.5	941.8	942.2	942.5	942.9
142.5°	956.6	959.2	961.7	963.1	963.4	963.5	963.7	964.0
145°	989.8	991.4	993.0	994.0	994.6	995.2	995.7	996.3
147.5°	1019.9	1020.6	1021.3	1021.5	1021.1	1020.8	1020.5	1020.1
150°	1038.5	1038.9	1039.3	1039.3	1039.1	1038.8	1038.5	1038.2
152.5°	1055.8	1056.4	1057.1	1057.0	1056.2	1055.4	1054.6	1053.8
155°	1079.4	1080.4	1081.4	1081.2	1080.1	1079.0	1077.8	1076.7
157.5°	1100.1	1101.2	1102.3	1102.2	1100.7	1099.2	1097.7	1096.2
160°	1111.8	1113.0	1114.1	1114.0	1112.7	1111.4	1110.0	1108.6
162.5°	1122.5	1123.9	1125.2	1125.2	1124.0	1122.8	1121.6	1120.4
165°	1136.8	1138.3	1139.9	1140.0	1138.7	1137.3	1135.9	1134.6
167.5°	1147.9	1149.4	1151.0	1151.0	1149.4	1147.9	1146.3	1144.8
170°	1154.1	1155.6	1157.2	1157.2	1155.6	1154.1	1152.5	1151.1
172.5°	1158.3	1159.8	1161.3	1161.2	1159.6	1157.9	1156.2	1154.5
175°	1163.2	1164.6	1166.0	1165.9	1164.3	1162.8	1161.2	1159.7
177.5°	1165.1	1166.3	1167.5	1167.4	1165.9	1164.3	1162.8	1161.2
180°	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0	1164.0

(END OF REPORT)