

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: P332416

Luminaire Tested: **S123RDIW-S560D755U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332416  
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: S123RDIW-S560D755U835-4F0-1E-UDD-F  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 755 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5157.0 lumens  
Efficiency: N/A  
Efficacy: 137.2 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: General Diffuse

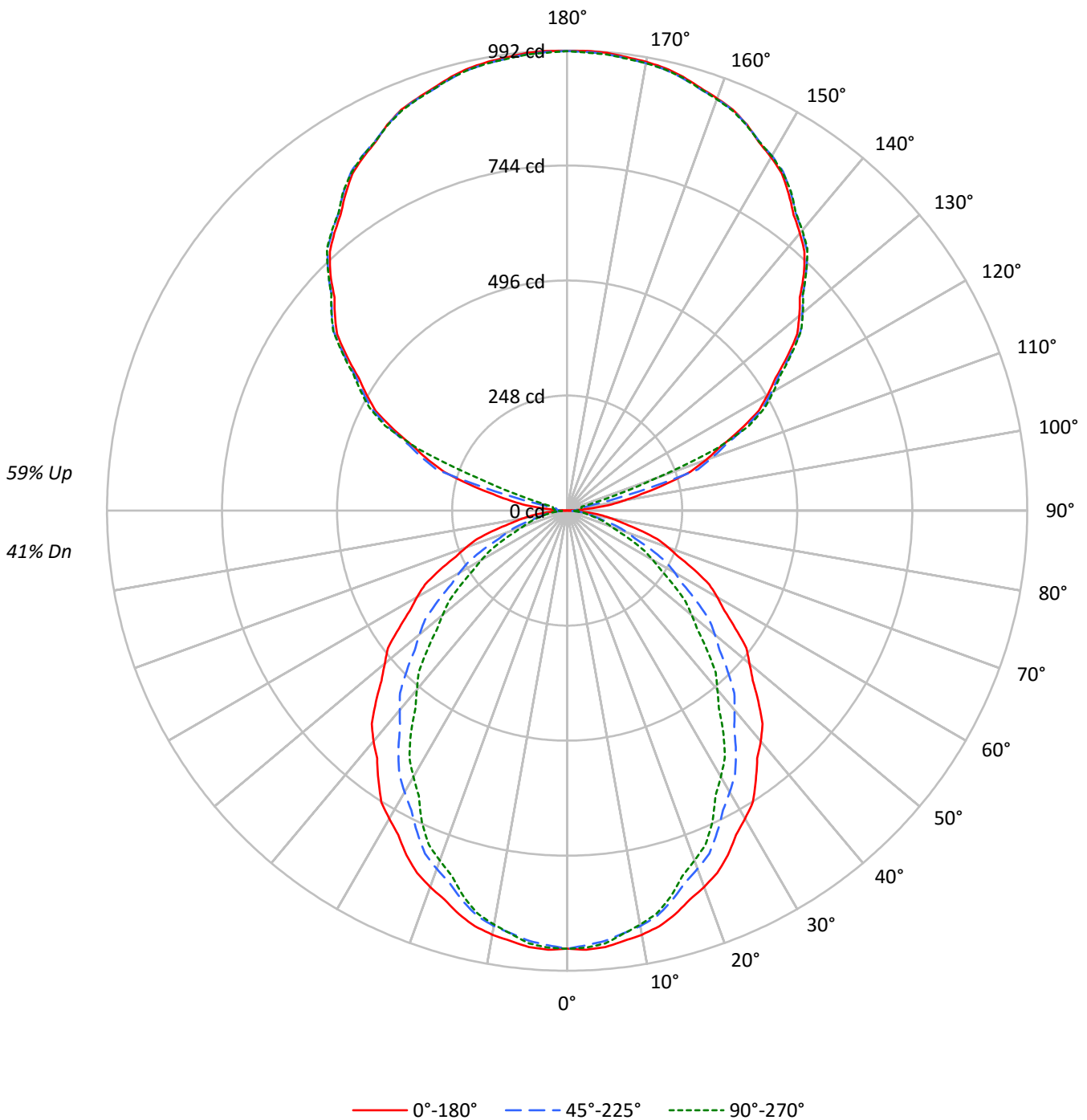
Input Watts (W): 37.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	105	105	105	105	96	96	96	96	79	79	79	63	63	63	48	48	48	41
1	96	92	88	85	88	84	81	78	69	67	65	56	54	53	43	42	41	35
2	88	81	75	70	80	74	69	64	61	57	54	49	47	44	38	37	35	30
3	80	71	64	58	73	65	59	54	54	49	46	44	40	38	34	32	30	26
4	73	63	55	49	67	58	51	46	48	43	39	39	35	33	31	28	26	22
5	67	56	48	42	61	52	45	40	43	38	34	35	31	28	28	25	23	20
6	62	50	43	37	57	46	39	34	39	34	30	32	28	25	25	22	20	17
7	57	46	38	32	52	42	35	30	35	30	26	29	25	22	23	20	18	15
8	53	41	34	29	49	38	31	27	32	27	23	26	23	20	21	18	16	14
9	50	38	30	25	45	35	28	24	29	24	21	24	21	18	20	17	15	13
10	46	35	28	23	42	32	26	21	27	22	19	23	19	16	18	15	13	11

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

	0°	45°	90°
0°	10167	10167	10167
5°	10205	10065	10122
10°	10147	9939	9905
15°	10038	9706	9604
20°	9889	9415	9196
25°	9734	9089	8797
30°	9531	8712	8236
35°	9320	8335	7720
40°	9128	7890	7082
45°	8873	7451	6506
50°	8594	6953	5863
55°	8310	6382	5262
60°	8047	5772	4600
65°	7707	5112	3940
70°	7279	4293	3182
75°	6658	3377	2994
80°	5938	2994	2752
85°	5014	2643	2458



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	88.7	1.7
10°-20°	246.8	4.8
20°-30°	355.3	6.9
30°-40°	400.3	7.8
40°-50°	382.9	7.4
50°-60°	313.6	6.1
60°-70°	211.6	4.1
70°-80°	106.4	2.1
80°-90°	30.9	0.6
90°-100°	36.0	0.7
100°-110°	171.6	3.3
110°-120°	412.3	8.0
120°-130°	525.0	10.2
130°-140°	560.9	10.9
140°-150°	524.5	10.2
150°-160°	423.1	8.2
160°-170°	273.1	5.3
170°-180°	94.1	1.8
0°-30°	690.8	13.4
0°-40°	1091.1	21.2
0°-60°	1787.6	34.7
0°-90°	2136.5	41.4
90°-120°	619.9	12.0
90°-150°	2230.2	43.2
90°-180°	3020.0	58.6
0°-180°	5157.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	944	944	944	944	944	
5°	944	940	932	938	937	90
15°	901	892	871	867	862	254
25°	820	800	765	750	741	377
35°	709	681	634	602	588	444
45°	583	547	490	447	427	450
55°	443	404	340	297	280	397
65°	303	259	201	165	155	299
75°	160	123	81	74	72	171
85°	41	25	21	20	20	46
90°	1	8	18	21	22	4
95°	45	17	23	28	28	55
105°	219	223	161	38	32	232
115°	411	416	422	430	433	406
125°	580	586	589	590	592	518
135°	722	726	729	731	729	555
145°	833	838	840	841	841	521
155°	918	916	917	920	916	423
165°	968	966	965	970	965	273
175°	990	987	988	992	987	94
180°	990	990	990	990	990	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5
2.5°	947.6	947.0	946.5	945.9	945.4	944.3	942.7	941.0	939.4	937.8	939.3
5°	944.5	943.7	942.8	942.0	941.1	939.7	937.6	935.6	933.5	931.5	933.0
7.5°	935.8	934.9	933.9	933.0	932.1	930.3	927.7	925.0	922.3	919.7	920.5
10°	928.4	927.2	926.0	924.8	923.7	921.5	918.5	915.4	912.3	909.3	909.4
12.5°	918.0	916.7	915.3	914.0	912.7	910.2	906.4	902.7	898.9	895.2	895.1
15°	900.8	899.0	897.1	895.2	893.4	890.0	885.3	880.5	875.7	871.0	870.1
17.5°	879.2	877.1	874.9	872.7	870.5	866.4	860.3	854.3	848.2	842.2	840.4
20°	863.3	860.6	857.9	855.1	852.4	847.8	841.3	834.9	828.4	821.9	819.7
22.5°	845.5	842.4	839.3	836.1	833.0	828.0	821.1	814.2	807.4	800.5	797.7
25°	819.6	815.4	811.1	806.9	802.6	796.6	788.7	780.9	773.1	765.3	761.7
27.5°	788.2	783.5	778.8	774.1	769.4	762.7	754.0	745.3	736.6	727.9	722.9
30°	766.8	761.7	756.6	751.5	746.4	739.0	729.5	720.0	710.4	700.9	695.1
32.5°	745.3	739.6	733.8	728.0	722.2	714.3	704.2	694.1	684.0	673.9	667.6
35°	709.3	703.2	697.1	691.0	684.8	676.5	665.9	655.4	644.8	634.3	626.9
37.5°	672.9	666.1	659.3	652.4	645.6	636.6	625.3	614.1	602.8	591.5	583.2
40°	649.6	642.1	634.6	627.1	619.6	609.8	597.8	585.7	573.6	561.5	552.6
42.5°	623.2	615.7	608.3	600.8	593.3	583.3	570.8	558.3	545.8	533.3	523.6
45°	582.9	575.3	567.6	560.0	552.3	541.9	528.8	515.7	502.6	489.5	479.8
47.5°	542.6	534.2	525.8	517.4	509.0	498.3	485.1	472.0	458.9	445.8	435.3
50°	513.2	505.2	497.2	489.2	481.2	470.3	456.5	442.8	429.0	415.2	404.6
52.5°	486.9	478.2	469.5	460.8	452.2	441.0	427.3	413.7	400.0	386.4	375.4
55°	442.8	434.4	426.1	417.7	409.4	398.0	383.5	369.1	354.6	340.1	330.2
57.5°	402.0	392.9	383.8	374.7	365.6	353.8	339.3	324.8	310.2	295.7	286.4
60°	373.8	364.5	355.1	345.7	336.4	324.6	310.5	296.4	282.2	268.1	258.9
62.5°	345.6	336.3	326.9	317.5	308.2	296.4	282.3	268.2	254.0	239.9	231.3
65°	302.6	293.2	283.9	274.5	265.1	253.8	240.5	227.3	214.0	200.7	192.4
67.5°	259.5	250.1	240.6	231.1	221.7	210.6	197.8	185.1	172.4	159.6	153.4
70°	231.3	222.1	213.0	203.8	194.6	184.0	172.1	160.2	148.3	136.4	130.4
72.5°	203.1	194.1	185.0	176.0	166.9	157.0	146.2	135.3	124.5	113.7	108.8
75°	160.1	151.9	143.8	135.6	127.4	118.6	109.3	99.9	90.6	81.2	79.5
77.5°	120.9	113.5	106.1	98.7	91.3	84.6	78.6	72.6	66.5	60.5	59.6
80°	95.8	88.8	81.8	74.8	67.8	62.6	59.0	55.4	51.8	48.3	47.7
82.5°	71.9	65.8	59.8	53.8	47.7	43.9	42.2	40.6	38.9	37.2	36.7
85°	40.6	36.9	33.1	29.4	25.6	23.5	23.0	22.5	22.0	21.4	21.1
87.5°	14.9	13.7	12.5	11.3	10.2	9.8	10.2	10.6	11.1	11.5	11.5
90°	0.7	2.4	4.0	5.6	7.3	9.2	11.3	13.4	15.5	17.7	18.3
92.5°	13.7	13.2	12.8	12.3	11.9	12.4	14.0	15.6	17.2	18.8	19.9
95°	44.9	38.2	31.5	24.8	18.1	15.6	17.4	19.2	21.0	22.8	24.0
97.5°	90.2	87.2	84.2	81.2	78.2	70.8	59.0	47.2	35.5	23.7	25.0
100°	124.4	127.6	130.9	134.2	137.4	126.3	100.8	75.3	49.8	24.3	25.6
102.5°	163.2	165.6	167.9	170.3	172.6	159.9	132.0	104.1	76.3	48.4	44.4
105°	219.3	221.1	222.9	224.7	226.5	220.0	205.3	190.6	175.9	161.2	132.2
107.5°	278.4	279.9	281.3	282.8	284.2	286.1	288.4	290.7	293.1	295.4	274.1
110°	317.9	319.2	320.5	321.8	323.1	324.7	326.5	328.3	330.1	331.9	326.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	355.6	356.7	357.9	359.1	360.3	361.8	363.6	365.4	367.2	369.0	369.1
115°	411.3	412.3	413.3	414.3	415.3	416.5	418.0	419.4	420.9	422.4	424.0
117.5°	465.4	466.6	467.8	469.0	470.2	471.2	471.9	472.7	473.4	474.2	475.5
120°	498.9	500.4	501.9	503.3	504.8	505.8	506.3	506.8	507.3	507.7	509.1
122.5°	533.1	534.3	535.5	536.7	537.9	538.8	539.4	540.1	540.7	541.3	542.2
125°	579.9	581.2	582.5	583.8	585.1	586.1	586.7	587.4	588.0	588.7	589.0
127.5°	625.2	626.5	627.8	629.1	630.4	631.5	632.3	633.0	633.8	634.6	635.1
130°	653.4	654.8	656.1	657.4	658.7	659.7	660.3	661.0	661.6	662.3	662.9
132.5°	680.5	681.8	683.1	684.4	685.8	686.7	687.2	687.7	688.2	688.8	689.4
135°	721.9	722.9	723.8	724.8	725.8	726.6	727.3	727.9	728.6	729.2	729.7
137.5°	757.2	758.4	759.7	760.9	762.2	763.0	763.3	763.7	764.1	764.4	765.2
140°	780.7	781.7	782.7	783.7	784.7	785.4	785.9	786.4	786.9	787.4	788.0
142.5°	802.5	803.5	804.5	805.5	806.5	807.2	807.7	808.2	808.7	809.2	809.7
145°	833.0	834.1	835.3	836.4	837.6	838.3	838.6	839.0	839.3	839.6	839.9
147.5°	861.7	862.4	863.2	863.9	864.7	865.2	865.6	865.9	866.2	866.5	866.9
150°	879.4	879.8	880.3	880.8	881.3	881.7	882.1	882.4	882.7	883.0	883.4
152.5°	895.2	895.5	895.7	895.9	896.2	896.4	896.6	896.8	897.0	897.2	897.7
155°	917.6	917.3	917.0	916.6	916.3	916.2	916.4	916.6	916.7	916.9	917.7
157.5°	935.0	935.0	934.9	934.9	934.9	934.8	934.6	934.4	934.3	934.1	935.1
160°	945.6	945.4	945.3	945.1	944.9	944.8	944.6	944.4	944.3	944.1	945.1
162.5°	955.6	955.2	954.7	954.3	953.9	953.6	953.4	953.3	953.1	952.9	954.1
165°	967.7	967.2	966.7	966.2	965.7	965.4	965.2	965.0	964.9	964.7	966.0
167.5°	977.1	976.4	975.8	975.1	974.5	974.1	974.1	974.1	974.1	974.1	975.4
170°	982.4	981.7	981.1	980.4	979.8	979.4	979.4	979.4	979.4	979.4	980.7
172.5°	985.9	985.1	984.3	983.6	982.8	982.4	982.6	982.7	982.8	983.0	984.3
175°	990.5	989.6	988.8	988.0	987.2	986.9	987.0	987.2	987.4	987.5	988.7
177.5°	991.6	991.0	990.3	989.7	989.0	988.8	988.9	989.0	989.2	989.3	990.3
180°	990.5	990.5	990.5	990.5	990.5	990.5	990.5	990.5	990.5	990.5	990.5



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	944.5	944.5	944.5	944.5	944.5	944.5	944.5	944.5
2.5°	940.8	942.3	943.8	944.4	944.1	943.8	943.6	943.3
5°	934.5	936.1	937.6	938.2	937.9	937.5	937.2	936.8
7.5°	921.4	922.2	923.1	923.2	922.6	922.1	921.5	920.9
10°	909.6	909.8	909.9	909.6	908.8	907.9	907.1	906.2
12.5°	895.0	894.9	894.8	894.2	893.2	892.2	891.3	890.3
15°	869.3	868.4	867.6	866.5	865.3	864.2	863.0	861.8
17.5°	838.6	836.8	834.9	833.2	831.4	829.6	827.8	826.1
20°	817.5	815.3	813.1	811.0	808.9	806.9	804.8	802.8
22.5°	795.0	792.2	789.5	787.1	785.2	783.3	781.4	779.5
25°	758.1	754.5	751.0	748.2	746.4	744.5	742.6	740.7
27.5°	717.9	713.0	708.0	704.1	701.2	698.4	695.5	692.6
30°	689.3	683.5	677.8	673.5	670.8	668.1	665.3	662.6
32.5°	661.3	654.9	648.6	644.0	641.2	638.3	635.4	632.6
35°	619.6	612.3	605.0	599.8	596.7	593.7	590.6	587.5
37.5°	574.9	566.6	558.3	552.3	548.5	544.7	540.9	537.1
40°	543.8	534.9	526.1	519.7	515.8	511.9	508.0	504.0
42.5°	514.0	504.3	494.6	488.0	484.5	481.0	477.5	474.0
45°	470.1	460.4	450.7	443.8	439.7	435.6	431.5	427.4
47.5°	424.7	414.2	403.6	396.5	392.9	389.2	385.6	381.9
50°	394.1	383.5	373.0	365.7	361.8	357.9	354.0	350.1
52.5°	364.5	353.5	342.5	335.3	331.8	328.3	324.8	321.3
55°	320.4	310.5	300.6	294.0	290.6	287.2	283.8	280.4
57.5°	277.0	267.7	258.4	252.3	249.4	246.5	243.6	240.7
60°	249.7	240.5	231.3	225.3	222.4	219.5	216.6	213.7
62.5°	222.6	214.0	205.3	199.5	196.5	193.4	190.4	187.4
65°	184.0	175.7	167.3	162.2	160.4	158.5	156.6	154.7
67.5°	147.2	140.9	134.7	130.6	128.6	126.6	124.6	122.6
70°	124.4	118.5	112.5	108.6	106.7	104.9	103.0	101.1
72.5°	103.9	99.1	94.2	91.4	90.6	89.8	89.0	88.2
75°	77.8	76.1	74.4	73.4	73.0	72.7	72.3	72.0
77.5°	58.7	57.8	56.8	56.2	55.9	55.5	55.2	54.8
80°	47.2	46.7	46.2	45.8	45.5	45.1	44.8	44.4
82.5°	36.2	35.7	35.2	34.9	34.8	34.8	34.7	34.6
85°	20.8	20.4	20.1	19.9	19.9	19.9	19.9	19.9
87.5°	11.5	11.5	11.5	11.4	11.4	11.3	11.2	11.2
90°	19.0	19.6	20.3	20.8	21.1	21.4	21.7	22.1
92.5°	20.9	22.0	23.0	23.6	23.8	24.0	24.2	24.4
95°	25.1	26.2	27.4	28.0	28.0	28.0	28.0	28.0
97.5°	26.3	27.6	28.9	29.7	29.8	30.0	30.2	30.3
100°	26.9	28.2	29.5	30.3	30.4	30.6	30.7	30.9
102.5°	40.3	36.3	32.2	30.3	30.6	30.9	31.2	31.5
105°	103.3	74.3	45.4	31.1	31.4	31.7	32.1	32.4
107.5°	252.9	231.7	210.5	189.0	167.1	145.3	123.5	101.7
110°	321.1	315.7	310.3	295.9	272.5	249.1	225.7	202.4





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CATALOG NUMBER: S123RDIW-S560D755U835-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	369.2	369.3	369.4	366.9	362.0	357.1	352.1	347.2
115°	425.7	427.3	428.9	430.1	430.7	431.4	432.0	432.7
117.5°	476.8	478.1	479.4	480.1	480.3	480.4	480.5	480.7
120°	510.4	511.7	513.0	513.6	513.6	513.6	513.6	513.6
122.5°	543.1	544.0	545.0	545.5	545.6	545.7	545.9	546.0
125°	589.3	589.7	590.0	590.3	590.7	591.0	591.3	591.6
127.5°	635.7	636.2	636.7	636.8	636.5	636.1	635.8	635.5
130°	663.6	664.2	664.9	665.1	664.7	664.4	664.1	663.7
132.5°	690.1	690.7	691.4	691.5	691.0	690.6	690.1	689.6
135°	730.2	730.7	731.2	731.2	730.7	730.2	729.7	729.2
137.5°	766.0	766.8	767.6	767.8	767.5	767.1	766.8	766.5
140°	788.7	789.3	790.0	790.2	789.8	789.5	789.2	788.8
142.5°	810.2	810.7	811.2	811.3	810.8	810.4	809.9	809.4
145°	840.3	840.6	840.9	841.1	841.1	841.1	841.1	841.1
147.5°	867.2	867.5	867.9	867.6	866.9	866.1	865.4	864.6
150°	883.7	884.0	884.3	884.3	883.8	883.3	882.8	882.3
152.5°	898.3	898.9	899.5	899.4	898.7	897.9	897.2	896.4
155°	918.5	919.3	920.2	920.1	919.1	918.1	917.1	916.1
157.5°	936.1	937.0	938.0	937.9	936.6	935.3	934.1	932.8
160°	946.1	947.1	948.0	948.0	946.8	945.7	944.5	943.4
162.5°	955.2	956.3	957.4	957.4	956.4	955.4	954.4	953.4
165°	967.3	968.6	969.9	970.0	968.9	967.7	966.6	965.4
167.5°	976.7	978.1	979.4	979.4	978.1	976.7	975.4	974.1
170°	982.0	983.4	984.7	984.7	983.4	982.0	980.7	979.4
172.5°	985.6	986.9	988.2	988.1	986.7	985.3	983.8	982.4
175°	989.8	991.0	992.1	992.0	990.7	989.4	988.1	986.8
177.5°	991.4	992.4	993.5	993.3	992.0	990.7	989.4	988.1
180°	990.5	990.5	990.5	990.5	990.5	990.5	990.5	990.5

(END OF REPORT)