

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: P332128-840

Luminaire Tested: **S123DIW-S560D755U840-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332128-840  
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-S560D755U840-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 755 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5439.5 lumens  
Efficiency: N/A  
Efficacy: 144.7 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: General Diffuse

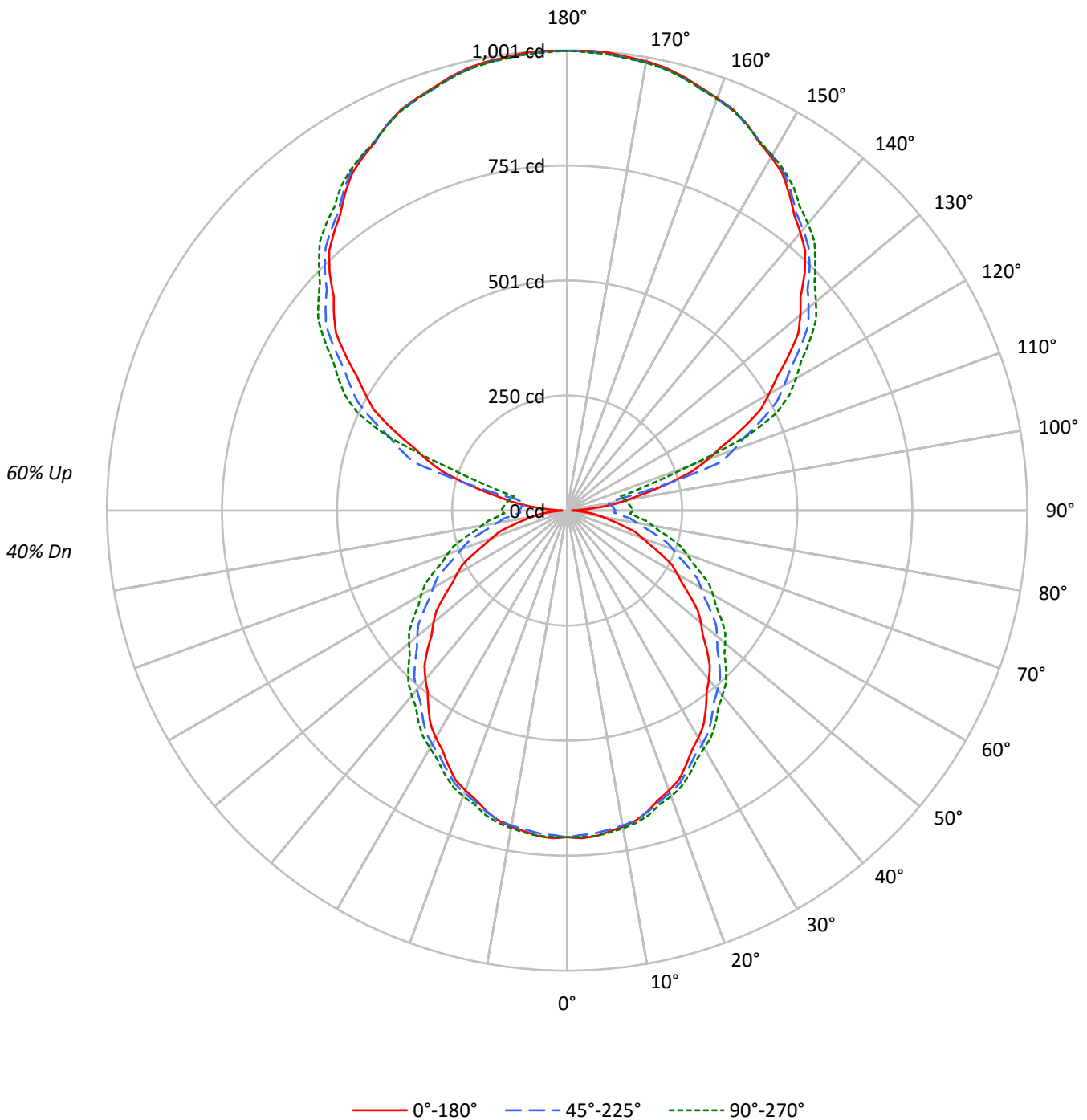
Input Watts (W): 37.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





TEST NUMBER: P332128-840

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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	95	95	95	95	78	78	78	62	62	62	47	47	47	40
1	95	90	86	82	86	82	78	75	67	64	62	53	51	50	40	39	38	32
2	86	78	72	66	78	71	66	61	58	54	51	46	43	41	35	33	31	26
3	78	68	61	55	71	62	56	51	51	46	42	40	37	34	31	28	26	22
4	71	60	52	46	64	55	48	43	45	40	36	36	32	29	27	25	22	19
5	65	54	45	39	59	49	42	36	40	35	31	32	28	25	24	22	19	16
6	60	48	40	34	54	44	37	31	36	31	26	29	25	22	22	19	17	14
7	55	43	35	30	50	39	32	27	33	27	23	26	22	19	20	17	15	12
8	51	39	31	26	47	36	29	24	30	24	20	24	20	17	18	16	13	11
9	48	36	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10
10	45	33	25	20	40	30	23	19	25	20	16	20	16	14	16	13	11	9

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

	0°	45°	90°
0°	7643	7643	7643
5°	7667	7451	7455
10°	7599	7280	7244
15°	7501	7084	7012
20°	7361	6862	6756
25°	7189	6606	6489
30°	7011	6375	6216
35°	6812	6132	6000
40°	6623	5910	5767
45°	6414	5697	5582
50°	6206	5488	5378
55°	5978	5271	5194
60°	5753	5053	5005
65°	5525	4819	4780
70°	5183	4558	4549
75°	4746	4256	4316
80°	4241	3962	4047
85°	3780	3757	3892



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	67.3	1.2
10°-20°	191.9	3.5
20°-30°	287.0	5.3
30°-40°	342.8	6.3
40°-50°	358.6	6.6
50°-60°	336.5	6.2
60°-70°	281.1	5.2
70°-80°	201.1	3.7
80°-90°	122.7	2.3
90°-100°	111.6	2.1
100°-110°	228.6	4.2
110°-120°	453.2	8.3
120°-130°	551.2	10.1
130°-140°	575.9	10.6
140°-150°	531.7	9.8
150°-160°	427.3	7.9
160°-170°	275.7	5.1
170°-180°	95.0	1.7
0°-30°	546.3	10.0
0°-40°	889.0	16.3
0°-60°	1584.2	29.1
0°-90°	2189.1	40.2
90°-120°	793.5	14.6
90°-150°	2452.3	45.1
90°-180°	3250.0	59.7
0°-180°	5439.5	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	710	710	710	710	710	
5°	711	709	705	710	710	67
15°	677	679	678	686	685	191
25°	611	619	621	631	631	282
35°	526	538	548	560	563	329
45°	430	449	468	482	489	332
55°	328	354	381	401	408	294
65°	227	257	291	313	322	224
75°	123	160	198	223	233	131
85°	38	77	118	143	152	40
90°	11	56	105	133	144	9
95°	54	56	100	128	136	63
105°	228	251	221	117	119	241
115°	419	434	468	493	503	414
125°	588	595	619	636	644	525
135°	730	735	746	761	764	562
145°	842	846	848	855	859	527
155°	927	925	926	929	925	427
165°	977	975	974	980	975	276
175°	1000	997	997	1002	996	95
180°	1000	1000	1000	1000	1000	



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CATALOG NUMBER: S123DIW-S560D755U840-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1
2.5°	713.3	712.9	712.5	712.0	711.6	710.8	709.7	708.6	707.5	706.4	707.5
5°	710.9	710.5	710.2	709.9	709.5	708.8	707.8	706.8	705.8	704.7	706.1
7.5°	704.0	704.0	704.1	704.2	704.3	703.8	702.8	701.8	700.7	699.7	701.5
10°	697.8	698.1	698.4	698.8	699.1	698.9	698.0	697.2	696.3	695.5	697.2
12.5°	690.3	690.8	691.4	691.8	692.3	692.3	691.7	691.1	690.4	689.8	691.5
15°	676.9	677.4	677.9	678.4	678.9	679.1	678.9	678.7	678.6	678.4	680.1
17.5°	659.8	660.9	662.0	663.0	664.0	664.5	664.4	664.3	664.3	664.2	665.7
20°	647.5	648.5	649.5	650.6	651.6	652.3	652.7	653.0	653.3	653.7	655.2
22.5°	634.5	635.5	636.5	637.6	638.6	639.3	639.9	640.4	640.9	641.3	643.3
25°	611.2	612.9	614.6	616.3	618.0	619.1	619.7	620.2	620.7	621.2	623.4
27.5°	587.6	589.6	591.6	593.5	595.4	596.9	598.0	599.2	600.3	601.4	603.3
30°	570.9	573.1	575.3	577.6	579.9	581.7	583.0	584.4	585.7	587.1	589.3
32.5°	552.3	554.8	557.3	559.9	562.4	564.5	566.3	568.0	569.9	571.7	573.9
35°	526.0	528.8	531.5	534.3	537.0	539.6	541.8	544.0	546.2	548.5	551.1
37.5°	498.2	501.3	504.3	507.5	510.6	513.5	516.2	519.0	521.7	524.5	527.5
40°	479.6	482.7	485.8	488.9	492.0	495.2	498.7	502.1	505.5	509.0	511.9
42.5°	459.2	463.0	466.8	470.5	474.3	478.0	481.6	485.1	488.8	492.3	495.5
45°	430.1	434.2	438.4	442.5	446.6	450.8	455.1	459.4	463.7	468.0	471.3
47.5°	399.6	404.3	409.0	413.6	418.3	423.1	428.1	432.9	437.9	442.8	446.5
50°	379.8	384.7	389.4	394.3	399.1	404.1	409.5	414.9	420.1	425.5	429.4
52.5°	358.8	363.9	369.0	374.1	379.1	384.7	390.5	396.4	402.2	408.2	412.2
55°	328.0	333.7	339.3	345.0	350.7	356.6	362.8	369.0	375.2	381.3	386.0
57.5°	298.0	303.9	309.8	315.7	321.6	328.0	334.8	341.5	348.3	355.1	359.7
60°	276.9	283.2	289.3	295.5	301.6	308.3	315.4	322.4	329.4	336.5	341.3
62.5°	257.1	263.5	269.8	276.1	282.5	289.3	296.8	304.3	311.7	319.2	324.0
65°	226.6	233.4	240.0	246.8	253.5	260.6	268.2	275.7	283.3	290.8	296.0
67.5°	195.7	202.9	210.0	217.0	224.2	231.6	239.3	247.0	254.7	262.4	268.0
70°	174.1	181.5	188.8	196.2	203.6	211.5	219.6	227.9	236.2	244.5	249.9
72.5°	154.2	161.7	169.1	176.4	183.8	191.8	200.3	208.8	217.3	225.9	231.6
75°	123.0	131.1	139.2	147.2	155.3	163.7	172.3	180.9	189.5	198.0	203.7
77.5°	95.7	103.9	112.1	120.2	128.4	136.7	145.4	154.1	162.8	171.5	177.4
80°	76.5	85.0	93.4	101.9	110.3	119.0	127.8	136.8	145.8	154.7	160.6
82.5°	59.9	68.5	77.0	85.5	94.1	102.9	112.0	121.1	130.2	139.3	145.1
85°	37.9	46.5	55.1	63.7	72.3	81.1	90.3	99.4	108.5	117.5	123.4
87.5°	20.7	29.6	38.5	47.4	56.2	65.3	74.5	83.7	92.9	102.1	108.1
90°	10.8	20.9	30.9	41.0	51.1	61.6	72.5	83.4	94.3	105.2	111.8
92.5°	23.2	30.4	37.6	44.6	51.8	60.5	70.8	81.0	91.2	101.5	108.3
95°	53.8	53.7	53.7	53.6	53.6	58.7	68.9	79.2	89.4	99.6	106.1
97.5°	98.7	101.7	104.7	107.8	110.8	110.3	106.4	102.6	98.8	94.9	101.4
100°	132.6	141.4	150.2	159.0	167.7	163.2	145.4	127.5	109.7	91.8	98.2
102.5°	171.2	178.5	185.8	193.2	200.5	194.0	173.6	153.2	132.9	112.5	113.2
105°	227.6	233.6	239.5	245.5	251.5	250.6	243.2	235.7	228.2	220.8	196.3
107.5°	286.5	291.4	296.4	301.3	306.3	313.5	322.9	332.1	341.5	350.9	334.1
110°	325.7	330.1	334.5	338.9	343.4	349.9	358.6	367.3	376.0	384.7	383.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	363.8	367.5	371.2	375.0	378.7	384.8	393.1	401.5	410.0	418.4	422.8
115°	419.3	422.3	425.4	428.4	431.5	436.9	444.5	452.2	459.9	467.6	473.3
117.5°	473.6	476.2	478.7	481.1	483.6	488.2	494.7	501.3	507.9	514.4	519.9
120°	507.0	509.3	511.6	513.9	516.3	520.6	526.7	532.9	539.1	545.2	550.5
122.5°	541.4	543.1	544.7	546.4	548.1	551.9	558.0	564.0	570.0	576.0	580.8
125°	587.9	589.3	590.6	591.9	593.2	596.6	602.3	607.9	613.6	619.2	623.2
127.5°	633.7	634.8	636.0	637.1	638.2	641.3	646.2	651.2	656.1	661.0	664.9
130°	662.2	663.4	664.5	665.7	666.8	669.4	673.6	677.6	681.8	685.8	689.7
132.5°	688.9	690.2	691.6	692.8	694.1	696.4	699.6	703.0	706.2	709.5	713.3
135°	730.5	731.3	732.2	733.0	733.9	735.5	738.0	740.6	743.2	745.7	749.3
137.5°	766.1	767.2	768.3	769.4	770.5	771.8	773.3	774.7	776.1	777.5	781.0
140°	789.2	790.2	791.2	792.2	793.1	794.2	795.2	796.2	797.2	798.2	801.4
142.5°	811.2	812.0	812.9	813.7	814.7	815.4	816.0	816.6	817.2	817.8	820.6
145°	842.0	842.9	843.9	845.0	846.0	846.6	846.9	847.3	847.6	847.9	849.6
147.5°	870.2	870.9	871.7	872.4	873.2	873.7	874.1	874.4	874.7	875.0	875.9
150°	888.1	888.5	889.0	889.5	890.0	890.4	890.8	891.1	891.4	891.7	892.1
152.5°	904.0	904.3	904.5	904.7	905.0	905.2	905.4	905.6	905.8	906.1	906.6
155°	926.7	926.3	926.0	925.6	925.3	925.2	925.4	925.6	925.7	925.9	926.8
157.5°	944.2	944.2	944.1	944.1	944.1	944.0	943.8	943.6	943.5	943.3	944.3
160°	954.9	954.7	954.6	954.4	954.2	954.1	953.9	953.7	953.6	953.4	954.4
162.5°	965.0	964.6	964.1	963.7	963.3	963.0	962.8	962.7	962.5	962.3	963.5
165°	977.2	976.7	976.2	975.7	975.2	974.9	974.7	974.5	974.4	974.2	975.5
167.5°	986.7	986.0	985.4	984.7	984.1	983.7	983.7	983.7	983.7	983.7	985.0
170°	992.1	991.4	990.8	990.1	989.5	989.1	989.1	989.1	989.1	989.1	990.4
172.5°	995.6	994.8	994.0	993.3	992.5	992.1	992.3	992.4	992.5	992.7	994.0
175°	1000.3	999.4	998.6	997.7	996.9	996.6	996.7	996.9	997.1	997.2	998.5
177.5°	1001.4	1000.8	1000.1	999.5	998.8	998.6	998.7	998.8	999.0	999.1	1000.1
180°	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1
2.5°	708.6	709.7	710.8	711.3	711.1	711.0	710.9	710.7
5°	707.5	708.8	710.2	710.8	710.6	710.4	710.3	710.1
7.5°	703.2	704.9	706.7	707.4	707.2	707.0	706.8	706.6
10°	698.9	700.6	702.4	703.0	702.7	702.4	702.0	701.7
12.5°	693.1	694.6	696.2	696.8	696.5	696.1	695.8	695.5
15°	681.9	683.6	685.3	686.1	685.9	685.7	685.6	685.4
17.5°	667.3	668.8	670.3	671.1	670.8	670.6	670.3	670.0
20°	656.8	658.3	659.8	660.8	660.9	661.1	661.3	661.4
22.5°	645.2	647.2	649.1	650.1	649.9	649.8	649.7	649.6
25°	625.6	627.9	630.2	631.3	631.3	631.3	631.3	631.3
27.5°	605.2	607.1	609.0	610.2	610.3	610.4	610.6	610.7
30°	591.3	593.3	595.4	596.4	596.4	596.4	596.4	596.4
32.5°	576.0	578.2	580.5	581.8	582.2	582.6	583.0	583.4
35°	553.6	556.2	558.8	560.4	561.1	561.8	562.5	563.2
37.5°	530.3	533.2	536.1	538.0	538.5	539.0	539.6	540.1
40°	514.8	517.8	520.7	522.5	523.2	523.9	524.5	525.2
42.5°	498.7	501.9	505.1	507.2	508.2	509.1	510.1	511.0
45°	474.5	477.8	481.1	483.4	484.7	486.1	487.6	488.9
47.5°	450.2	453.8	457.5	459.9	460.9	462.0	463.1	464.1
50°	433.3	437.4	441.3	443.8	445.0	446.3	447.5	448.7
52.5°	416.4	420.4	424.5	427.3	428.8	430.2	431.7	433.2
55°	390.6	395.3	399.9	402.9	404.3	405.7	407.1	408.5
57.5°	364.5	369.1	373.8	376.9	378.5	380.1	381.7	383.3
60°	346.2	350.9	355.8	359.1	361.0	362.8	364.8	366.7
62.5°	328.8	333.7	338.4	341.7	343.5	345.2	347.0	348.7
65°	301.1	306.3	311.5	315.0	316.7	318.4	320.1	321.8
67.5°	273.7	279.3	285.0	288.5	289.9	291.3	292.9	294.3
70°	255.5	260.9	266.5	270.0	271.8	273.5	275.2	276.9
72.5°	237.1	242.8	248.4	252.2	253.9	255.6	257.3	259.0
75°	209.3	215.1	220.8	224.6	226.6	228.7	230.8	232.9
77.5°	183.4	189.3	195.3	199.1	200.8	202.3	203.9	205.5
80°	166.4	172.3	178.1	181.9	183.6	185.3	187.0	188.7
82.5°	151.0	156.7	162.6	166.4	168.1	169.9	171.6	173.3
85°	129.3	135.1	141.0	144.7	146.4	148.1	149.9	151.6
87.5°	114.1	120.1	126.0	129.9	131.7	133.5	135.2	137.0
90°	118.3	124.7	131.3	135.5	137.6	139.7	141.7	143.7
92.5°	115.0	121.8	128.6	132.8	134.6	136.3	138.1	140.0
95°	112.6	119.1	125.5	129.7	131.4	133.1	134.8	136.5
97.5°	107.9	114.3	120.7	124.9	126.7	128.7	130.6	132.4
100°	104.4	110.8	117.0	121.2	123.0	124.9	126.8	128.7
102.5°	114.0	114.7	115.5	116.8	118.9	120.9	122.9	124.9
105°	171.9	147.5	123.1	111.8	113.7	115.6	117.4	119.4
107.5°	317.2	300.4	283.6	264.9	244.4	223.9	203.4	182.9
110°	382.7	381.7	380.7	369.1	346.9	324.7	302.5	280.1





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CATALOG NUMBER: S123DIW-S560D755U840-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	427.3	431.7	436.2	436.6	433.1	429.7	426.2	422.7
115°	479.1	484.8	490.7	494.5	496.6	498.7	500.7	502.7
117.5°	525.2	530.7	536.1	539.6	541.0	542.5	543.9	545.4
120°	555.8	561.1	566.3	569.6	570.8	572.0	573.2	574.4
122.5°	585.5	590.3	595.0	598.0	599.4	600.7	602.1	603.4
125°	627.1	631.1	635.0	637.7	639.2	640.9	642.4	643.9
127.5°	668.8	672.8	676.7	679.1	679.9	680.8	681.7	682.5
130°	693.7	697.6	701.6	703.9	704.6	705.3	706.0	706.6
132.5°	717.1	720.8	724.7	726.9	727.6	728.3	729.0	729.7
135°	752.9	756.5	760.0	762.0	762.4	762.8	763.2	763.5
137.5°	784.6	788.1	791.5	793.6	794.1	794.7	795.2	795.7
140°	804.7	808.0	811.2	813.0	813.6	814.2	814.7	815.2
142.5°	823.4	826.3	829.1	830.7	831.1	831.5	831.9	832.3
145°	851.3	853.0	854.7	856.0	856.6	857.3	858.0	858.7
147.5°	876.6	877.4	878.1	878.4	878.2	878.1	878.0	877.8
150°	892.4	892.7	893.0	893.1	893.0	892.8	892.7	892.5
152.5°	907.2	907.8	908.4	908.4	907.7	907.0	906.3	905.5
155°	927.6	928.4	929.3	929.2	928.2	927.2	926.1	925.1
157.5°	945.3	946.2	947.3	947.2	945.8	944.5	943.3	942.0
160°	955.4	956.4	957.4	957.4	956.1	955.0	953.8	952.7
162.5°	964.6	965.7	966.8	966.8	965.8	964.8	963.8	962.8
165°	976.8	978.2	979.5	979.6	978.5	977.2	976.1	974.9
167.5°	986.3	987.7	989.1	989.1	987.7	986.3	985.0	983.7
170°	991.7	993.1	994.4	994.4	993.1	991.7	990.4	989.1
172.5°	995.3	996.6	997.9	997.8	996.4	995.0	993.5	992.1
175°	999.6	1000.8	1001.9	1001.8	1000.5	999.2	997.8	996.5
177.5°	1001.2	1002.2	1003.3	1003.1	1001.8	1000.5	999.2	997.8
180°	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3	1000.3

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