

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: P332134-927

Luminaire Tested: **S123DIW-S560D1030U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332134-927
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-S560D1030U927-4F0-1E-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: 5140.9 lumens
Efficiency: N/A
Efficacy: 113.7 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: Semi-Indirect

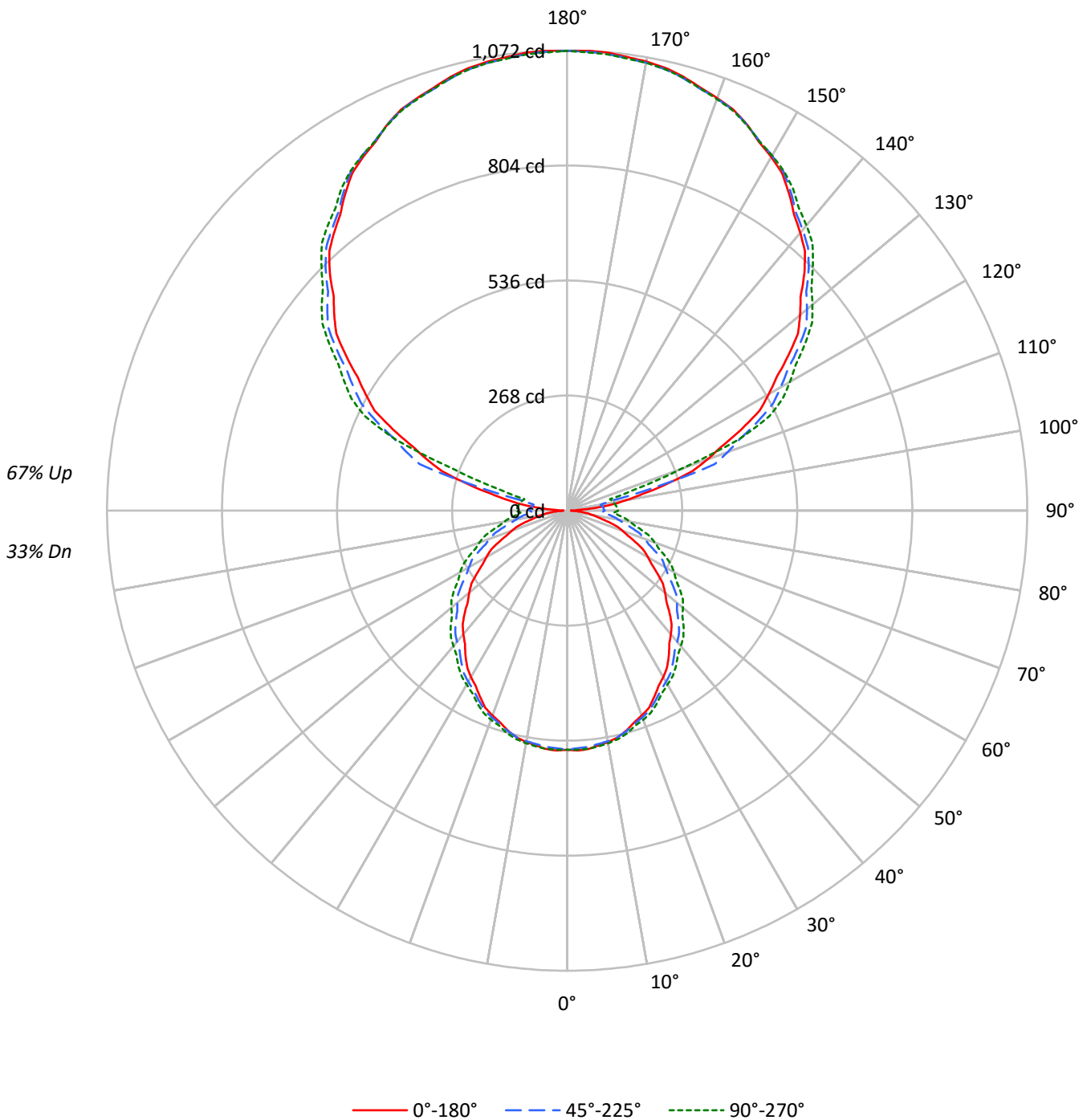
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	5997	5997	5997
5°	6015	5845	5849
10°	5961	5711	5682
15°	5884	5558	5501
20°	5774	5383	5300
25°	5639	5182	5090
30°	5500	5002	4877
35°	5344	4810	4707
40°	5195	4636	4524
45°	5031	4469	4378
50°	4868	4304	4219
55°	4689	4134	4074
60°	4513	3964	3925
65°	4335	3780	3750
70°	4066	3576	3568
75°	3724	3338	3386
80°	3326	3109	3176
85°	2963	2948	3053



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.8	1.0
10°-20°	150.5	2.9
20°-30°	225.2	4.4
30°-40°	268.9	5.2
40°-50°	281.3	5.5
50°-60°	264.0	5.1
60°-70°	220.5	4.3
70°-80°	157.8	3.1
80°-90°	97.1	1.9
90°-100°	98.0	1.9
100°-110°	229.0	4.5
110°-120°	474.7	9.2
120°-130°	584.2	11.4
130°-140°	613.9	11.9
140°-150°	568.7	11.1
150°-160°	457.5	8.9
160°-170°	295.2	5.7
170°-180°	101.8	2.0
0°-30°	428.5	8.3
0°-40°	697.4	13.6
0°-60°	1242.7	24.2
0°-90°	1718.0	33.4
90°-120°	801.6	15.6
90°-150°	2568.4	50.0
90°-180°	3423.0	66.6
0°-180°	5140.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	557	557	557	557	557	
5°	558	556	553	557	557	53
15°	531	533	532	538	538	149
25°	479	485	487	495	495	221
35°	413	422	430	439	442	258
45°	337	352	367	378	384	260
55°	257	277	299	315	320	230
65°	178	202	228	246	252	176
75°	96	125	155	175	183	103
85°	30	60	92	112	119	31
90°	9	47	88	111	119	8
95°	55	49	85	108	115	65
105°	242	261	220	103	103	256
115°	448	461	489	511	519	442
125°	629	636	656	670	676	562
135°	782	786	796	808	810	602
145°	901	906	908	914	917	564
155°	992	991	991	995	991	457
165°	1046	1044	1043	1049	1044	295
175°	1071	1067	1068	1073	1067	102
180°	1071	1071	1071	1071	1071	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1
2.5°	559.5	559.2	558.9	558.5	558.2	557.6	556.7	555.9	555.0	554.1	555.0
5°	557.7	557.4	557.1	556.9	556.6	556.0	555.2	554.4	553.7	552.8	553.9
7.5°	552.2	552.2	552.3	552.4	552.5	552.1	551.3	550.5	549.7	548.9	550.2
10°	547.4	547.6	547.9	548.2	548.4	548.3	547.6	546.9	546.2	545.6	546.9
12.5°	541.5	541.9	542.3	542.6	543.0	543.0	542.6	542.1	541.6	541.1	542.4
15°	531.0	531.4	531.8	532.2	532.6	532.7	532.6	532.4	532.3	532.2	533.5
17.5°	517.6	518.4	519.3	520.1	520.9	521.3	521.2	521.1	521.1	521.0	522.2
20°	507.9	508.7	509.5	510.3	511.1	511.7	512.0	512.2	512.5	512.8	514.0
22.5°	497.7	498.5	499.3	500.2	501.0	501.5	501.9	502.3	502.7	503.0	504.6
25°	479.4	480.8	482.1	483.5	484.8	485.7	486.1	486.5	486.9	487.3	489.0
27.5°	461.0	462.5	464.1	465.6	467.1	468.3	469.1	470.0	470.9	471.7	473.2
30°	447.8	449.6	451.3	453.1	454.9	456.3	457.3	458.4	459.5	460.6	462.2
32.5°	433.2	435.2	437.2	439.2	441.2	442.8	444.3	445.6	447.0	448.5	450.2
35°	412.6	414.8	416.9	419.1	421.3	423.3	425.0	426.7	428.5	430.2	432.3
37.5°	390.8	393.2	395.6	398.1	400.5	402.8	405.0	407.1	409.2	411.5	413.8
40°	376.2	378.7	381.1	383.5	386.0	388.5	391.2	393.9	396.6	399.3	401.6
42.5°	360.2	363.2	366.1	369.1	372.1	374.9	377.8	380.6	383.4	386.2	388.7
45°	337.4	340.6	343.9	347.1	350.3	353.6	357.0	360.4	363.8	367.1	369.7
47.5°	313.5	317.2	320.8	324.5	328.1	331.9	335.8	339.6	343.5	347.4	350.2
50°	297.9	301.7	305.5	309.3	313.1	317.0	321.2	325.4	329.5	333.7	336.8
52.5°	281.5	285.4	289.5	293.4	297.4	301.7	306.3	310.9	315.5	320.2	323.4
55°	257.3	261.7	266.2	270.6	275.1	279.7	284.6	289.5	294.3	299.1	302.8
57.5°	233.8	238.4	243.0	247.6	252.3	257.3	262.6	267.9	273.2	278.5	282.2
60°	217.2	222.1	227.0	231.8	236.6	241.9	247.4	252.9	258.4	264.0	267.8
62.5°	201.7	206.7	211.7	216.6	221.6	227.0	232.8	238.7	244.5	250.4	254.1
65°	177.8	183.1	188.3	193.6	198.8	204.5	210.4	216.3	222.2	228.1	232.2
67.5°	153.5	159.1	164.7	170.2	175.9	181.6	187.7	193.8	199.8	205.8	210.2
70°	136.6	142.4	148.1	153.9	159.7	165.9	172.3	178.8	185.3	191.8	196.1
72.5°	121.0	126.8	132.6	138.4	144.2	150.4	157.1	163.8	170.5	177.2	181.6
75°	96.5	102.8	109.2	115.5	121.8	128.4	135.1	141.9	148.6	155.3	159.8
77.5°	75.1	81.5	87.9	94.3	100.7	107.3	114.1	120.9	127.7	134.5	139.2
80°	60.0	66.7	73.3	79.9	86.5	93.3	100.3	107.3	114.4	121.4	126.0
82.5°	47.0	53.7	60.4	67.1	73.8	80.7	87.9	95.0	102.1	109.2	113.8
85°	29.7	36.4	43.3	50.0	56.7	63.6	70.8	78.0	85.1	92.2	96.8
87.5°	16.3	23.4	30.4	37.5	44.6	51.8	59.1	66.5	73.8	81.1	85.9
90°	8.7	17.0	25.4	33.8	42.2	50.9	60.1	69.3	78.5	87.7	92.9
92.5°	22.2	27.6	33.1	38.6	44.0	51.0	59.6	68.0	76.5	85.1	90.7
95°	55.2	53.2	51.3	49.3	47.2	50.5	59.1	67.7	76.2	84.8	90.2
97.5°	103.5	105.0	106.5	108.0	109.5	107.0	100.6	94.2	87.8	81.4	86.7
100°	139.9	147.8	155.7	163.5	171.3	164.5	143.2	121.8	100.4	79.1	84.4
102.5°	181.5	187.9	194.3	200.7	207.2	198.4	174.4	150.3	126.3	102.3	101.6
105°	241.9	247.2	252.3	257.5	262.7	260.2	250.1	240.0	229.9	219.8	192.3
107.5°	305.2	309.5	313.8	318.1	322.4	328.6	336.6	344.6	352.6	360.7	341.3
110°	347.4	351.2	355.1	358.9	362.7	368.4	375.7	383.0	390.3	397.7	395.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	388.1	391.4	394.7	397.9	401.2	406.4	413.5	420.6	427.8	434.9	438.4
115°	447.8	450.5	453.2	455.8	458.5	463.1	469.5	476.0	482.4	488.9	493.8
117.5°	506.1	508.4	510.7	513.0	515.3	519.2	524.5	529.9	535.3	540.7	545.3
120°	541.9	544.2	546.4	548.7	551.0	554.6	559.6	564.5	569.5	574.5	579.0
122.5°	578.8	580.4	582.1	583.8	585.4	588.7	593.7	598.6	603.5	608.3	612.4
125°	628.8	630.3	631.6	633.0	634.5	637.5	642.1	646.7	651.3	655.9	659.2
127.5°	677.8	679.1	680.4	681.7	682.9	685.6	689.7	693.8	697.9	702.0	705.2
130°	708.4	709.6	710.9	712.3	713.5	715.8	719.2	722.6	726.0	729.4	732.7
132.5°	737.2	738.6	740.0	741.3	742.8	744.8	747.5	750.2	753.0	755.7	758.8
135°	781.8	782.7	783.6	784.6	785.4	787.0	789.3	791.4	793.6	795.8	798.8
137.5°	819.8	821.1	822.3	823.6	824.8	826.0	827.3	828.5	829.7	830.9	833.9
140°	844.8	845.9	846.9	848.0	849.1	850.1	851.0	851.9	852.9	853.8	856.5
142.5°	868.4	869.3	870.3	871.2	872.2	873.0	873.5	874.2	874.8	875.4	877.8
145°	901.3	902.4	903.5	904.6	905.7	906.4	906.8	907.1	907.5	907.8	909.3
147.5°	931.8	932.6	933.3	934.1	935.0	935.6	935.9	936.3	936.6	937.0	937.6
150°	950.9	951.3	951.9	952.4	952.9	953.4	953.7	954.1	954.4	954.8	955.1
152.5°	968.0	968.3	968.5	968.8	969.0	969.2	969.5	969.6	969.9	970.1	970.7
155°	992.2	991.8	991.5	991.2	990.8	990.7	990.9	991.0	991.3	991.4	992.3
157.5°	1011.0	1011.0	1010.9	1010.9	1010.8	1010.7	1010.6	1010.3	1010.2	1010.0	1011.1
160°	1022.5	1022.2	1022.1	1021.9	1021.8	1021.5	1021.4	1021.2	1021.0	1020.9	1021.9
162.5°	1033.2	1032.8	1032.4	1031.9	1031.4	1031.1	1030.9	1030.8	1030.5	1030.4	1031.6
165°	1046.3	1045.8	1045.3	1044.7	1044.2	1043.9	1043.6	1043.5	1043.3	1043.1	1044.6
167.5°	1056.5	1055.8	1055.1	1054.4	1053.7	1053.3	1053.3	1053.3	1053.3	1053.3	1054.7
170°	1062.2	1061.5	1060.8	1060.1	1059.4	1059.1	1059.1	1059.1	1059.1	1059.1	1060.4
172.5°	1066.0	1065.2	1064.4	1063.5	1062.6	1062.3	1062.4	1062.6	1062.7	1062.9	1064.3
175°	1071.0	1070.1	1069.2	1068.3	1067.5	1067.1	1067.2	1067.5	1067.6	1067.8	1069.1
177.5°	1072.2	1071.5	1070.9	1070.2	1069.4	1069.1	1069.3	1069.4	1069.5	1069.7	1070.9
180°	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1
2.5°	555.9	556.7	557.6	558.0	557.9	557.8	557.7	557.5
5°	555.0	556.0	557.1	557.6	557.5	557.3	557.2	557.1
7.5°	551.6	552.9	554.4	554.9	554.8	554.6	554.4	554.3
10°	548.3	549.6	551.0	551.4	551.2	551.0	550.6	550.4
12.5°	543.7	544.9	546.1	546.6	546.4	546.1	545.8	545.6
15°	534.9	536.2	537.6	538.2	538.1	537.9	537.8	537.7
17.5°	523.5	524.7	525.9	526.4	526.2	526.0	525.9	525.6
20°	515.2	516.4	517.6	518.3	518.4	518.6	518.7	518.8
22.5°	506.1	507.7	509.2	509.9	509.8	509.8	509.7	509.6
25°	490.8	492.6	494.3	495.2	495.2	495.2	495.2	495.2
27.5°	474.8	476.3	477.8	478.6	478.7	478.8	479.0	479.0
30°	463.8	465.4	467.1	467.9	467.9	467.9	467.9	467.9
32.5°	451.9	453.6	455.3	456.4	456.7	457.0	457.3	457.6
35°	434.3	436.3	438.3	439.6	440.1	440.7	441.2	441.8
37.5°	416.0	418.3	420.6	422.0	422.4	422.8	423.3	423.7
40°	403.9	406.2	408.4	409.9	410.4	411.0	411.5	412.0
42.5°	391.2	393.7	396.2	397.8	398.6	399.3	400.1	400.8
45°	372.2	374.8	377.4	379.2	380.2	381.4	382.5	383.5
47.5°	353.2	356.0	358.9	360.8	361.6	362.4	363.3	364.1
50°	339.9	343.1	346.2	348.2	349.1	350.1	351.0	352.0
52.5°	326.6	329.8	333.0	335.2	336.4	337.5	338.7	339.8
55°	306.4	310.1	313.7	316.1	317.2	318.2	319.3	320.4
57.5°	285.9	289.5	293.2	295.6	296.9	298.2	299.4	300.7
60°	271.6	275.3	279.1	281.7	283.2	284.6	286.1	287.6
62.5°	257.9	261.7	265.5	268.1	269.4	270.8	272.2	273.5
65°	236.2	240.3	244.4	247.1	248.4	249.8	251.1	252.5
67.5°	214.7	219.1	223.6	226.3	227.4	228.5	229.7	230.8
70°	200.4	204.7	209.1	211.8	213.2	214.5	215.9	217.2
72.5°	186.0	190.4	194.9	197.8	199.2	200.5	201.8	203.2
75°	164.2	168.7	173.2	176.2	177.8	179.4	181.0	182.7
77.5°	143.9	148.5	153.2	156.2	157.5	158.7	159.9	161.2
80°	130.6	135.1	139.7	142.7	144.0	145.4	146.7	148.1
82.5°	118.4	122.9	127.5	130.6	131.9	133.2	134.6	135.9
85°	101.4	106.0	110.6	113.5	114.9	116.2	117.6	118.9
87.5°	90.5	95.3	100.1	103.1	104.5	105.9	107.3	108.8
90°	98.2	103.5	108.8	112.3	114.1	115.7	117.4	119.1
92.5°	96.3	101.9	107.5	111.0	112.5	113.9	115.3	116.8
95°	95.6	101.0	106.4	109.8	111.1	112.5	113.8	115.2
97.5°	92.2	97.6	103.1	106.5	108.1	109.6	111.1	112.6
100°	89.7	95.1	100.4	103.8	105.3	106.9	108.4	109.9
102.5°	101.1	100.5	99.9	100.4	102.1	103.8	105.4	107.1
105°	164.7	137.2	109.7	96.7	98.3	99.8	101.4	103.0
107.5°	321.9	302.6	283.3	262.4	240.0	217.6	195.2	172.9
110°	393.0	390.7	388.4	375.1	350.9	326.7	302.5	278.3



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CATALOG NUMBER: S123DIW-S560D1030U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	441.9	445.4	448.9	448.5	444.4	440.3	436.1	432.0
115°	498.9	503.9	508.9	512.3	514.0	515.9	517.6	519.4
117.5°	549.9	554.5	559.1	562.1	563.2	564.4	565.6	566.8
120°	583.5	588.0	592.6	595.3	596.3	597.1	598.1	599.0
122.5°	616.3	620.3	624.3	626.9	627.9	629.0	630.1	631.1
125°	662.3	665.5	668.7	671.0	672.2	673.5	674.9	676.1
127.5°	708.4	711.7	714.9	716.8	717.4	718.0	718.5	719.1
130°	736.0	739.3	742.5	744.4	744.9	745.3	745.8	746.2
132.5°	762.0	765.2	768.3	770.1	770.6	771.0	771.3	771.8
135°	801.7	804.7	807.6	809.2	809.3	809.5	809.6	809.8
137.5°	836.9	839.9	842.8	844.5	844.8	845.1	845.4	845.7
140°	859.3	862.0	864.7	866.3	866.6	866.9	867.2	867.5
142.5°	880.1	882.5	884.9	886.1	886.4	886.5	886.7	886.9
145°	910.7	912.2	913.6	914.6	915.1	915.7	916.2	916.7
147.5°	938.3	939.1	939.7	939.8	939.5	939.2	938.9	938.6
150°	955.5	955.8	956.2	956.2	956.0	955.8	955.5	955.2
152.5°	971.4	972.0	972.6	972.6	971.8	971.1	970.3	969.6
155°	993.2	994.0	995.0	994.8	993.8	992.8	991.7	990.6
157.5°	1012.2	1013.2	1014.2	1014.1	1012.7	1011.4	1010.0	1008.6
160°	1022.9	1024.1	1025.1	1025.0	1023.7	1022.5	1021.3	1020.0
162.5°	1032.8	1034.0	1035.2	1035.2	1034.2	1033.1	1032.0	1030.9
165°	1045.9	1047.3	1048.8	1048.8	1047.7	1046.4	1045.1	1043.9
167.5°	1056.1	1057.6	1059.0	1059.0	1057.6	1056.1	1054.7	1053.3
170°	1061.8	1063.3	1064.7	1064.7	1063.3	1061.8	1060.4	1059.1
172.5°	1065.7	1067.1	1068.5	1068.4	1066.9	1065.3	1063.7	1062.2
175°	1070.2	1071.5	1072.8	1072.7	1071.3	1069.8	1068.4	1067.0
177.5°	1072.0	1073.1	1074.2	1074.1	1072.7	1071.3	1069.8	1068.4
180°	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0	1071.0

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