

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: P332421-830

Luminaire Tested: **S123RDIW-S560D1030U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332421-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIW-S560D1030U830-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1030 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5382.7 lumens
Efficiency: N/A
Efficacy: 119.1 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: Semi-Indirect

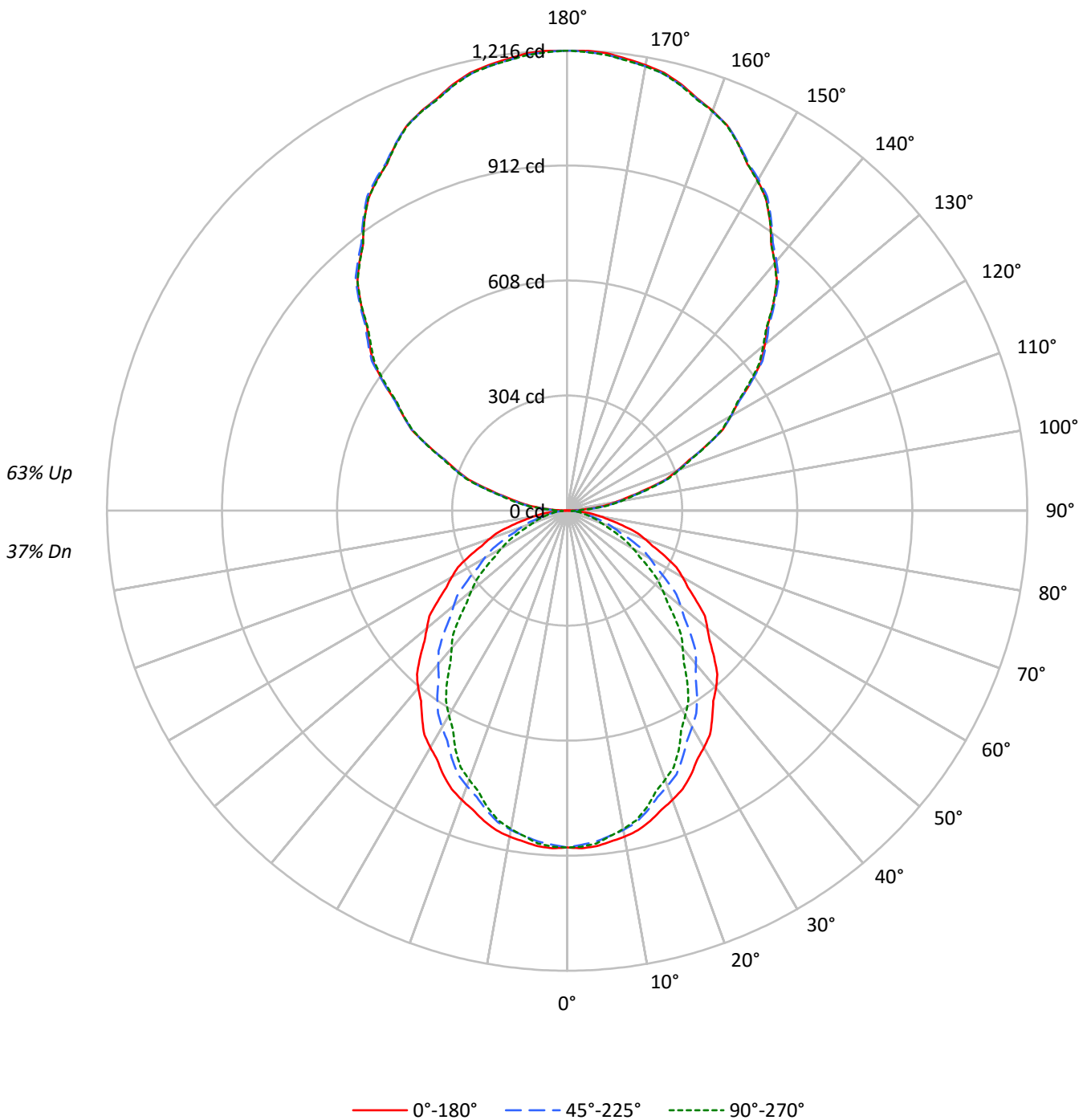
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	76	76	76	60	60	60	45	45	45	37
1	95	91	87	84	86	83	80	77	67	65	63	53	51	50	40	39	38	32
2	87	80	74	69	79	73	68	63	59	56	53	47	44	42	35	34	32	27
3	79	70	63	58	72	64	58	53	52	48	44	41	38	36	31	29	28	23
4	73	62	55	49	66	57	50	45	47	42	38	37	34	31	28	26	24	20
5	67	55	48	42	60	51	44	39	42	37	33	33	30	27	25	23	21	18
6	61	50	42	36	56	46	39	34	38	32	29	30	26	24	23	21	19	16
7	57	45	37	32	51	41	34	30	34	29	25	27	24	21	21	19	17	14
8	53	41	33	28	48	37	31	26	31	26	22	25	21	19	20	17	15	13
9	49	37	30	25	44	34	28	23	28	24	20	23	19	17	18	15	14	11
10	46	34	27	22	42	31	25	21	26	21	18	21	18	15	17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9582	9582	9582
5°	9619	9487	9541
10°	9565	9368	9335
15°	9461	9149	9052
20°	9321	8874	8668
25°	9175	8567	8291
30°	8983	8211	7762
35°	8784	7857	7276
40°	8604	7436	6674
45°	8363	7024	6132
50°	8100	6553	5526
55°	7833	6016	4960
60°	7584	5440	4336
65°	7264	4819	3713
70°	6861	4047	2999
75°	6276	3182	2824
80°	5597	2820	2591
85°	4730	2495	2322



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	83.6	1.6
10°-20°	232.6	4.3
20°-30°	334.9	6.2
30°-40°	377.3	7.0
40°-50°	360.9	6.7
50°-60°	295.6	5.5
60°-70°	199.4	3.7
70°-80°	100.3	1.9
80°-90°	30.1	0.6
90°-100°	79.2	1.5
100°-110°	237.0	4.4
110°-120°	403.1	7.5
120°-130°	530.3	9.9
130°-140°	596.0	11.1
140°-150°	585.8	10.9
150°-160°	493.2	9.2
160°-170°	328.3	6.1
170°-180°	115.0	2.1
0°-30°	651.1	12.1
0°-40°	1028.4	19.1
0°-60°	1684.8	31.3
0°-90°	2014.7	37.4
90°-120°	719.4	13.4
90°-150°	2431.5	45.2
90°-180°	3368.0	62.6
0°-180°	5382.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	890	890	890	890	890	
5°	890	886	878	884	883	84
15°	849	840	821	817	812	239
25°	772	754	721	706	698	355
35°	668	642	598	568	554	418
45°	549	516	461	422	403	424
55°	417	380	321	280	264	374
65°	285	245	189	155	146	282
75°	151	116	76	70	68	161
85°	38	23	20	19	19	43
90°	1	11	23	27	29	5
95°	56	63	71	74	74	63
105°	215	217	225	226	227	230
115°	406	408	407	408	407	401
125°	594	597	595	591	587	529
135°	771	776	775	772	770	594
145°	935	937	940	938	935	584
155°	1070	1070	1071	1075	1069	493
165°	1166	1163	1163	1168	1162	329
175°	1213	1209	1209	1214	1208	115
180°	1216	1216	1216	1216	1216	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2
2.5°	893.2	892.6	892.1	891.6	891.1	890.0	888.5	886.9	885.4	883.9	885.3
5°	890.2	889.5	888.6	887.9	887.0	885.7	883.7	881.8	879.9	878.0	879.4
7.5°	882.0	881.2	880.2	879.4	878.5	876.8	874.4	871.9	869.3	866.9	867.6
10°	875.1	873.9	872.8	871.7	870.6	868.6	865.7	862.8	859.9	857.1	857.1
12.5°	865.3	864.0	862.7	861.5	860.3	857.9	854.3	850.8	847.3	843.8	843.7
15°	849.0	847.3	845.6	843.8	842.1	838.9	834.4	829.9	825.4	821.0	820.1
17.5°	828.7	826.7	824.6	822.6	820.5	816.6	810.9	805.2	799.5	793.8	792.1
20°	813.7	811.2	808.6	806.0	803.4	799.1	793.0	786.9	780.8	774.7	772.6
22.5°	796.9	794.0	791.1	788.1	785.1	780.4	773.9	767.4	761.0	754.5	751.9
25°	772.5	768.5	764.5	760.5	756.5	750.8	743.4	736.0	728.7	721.3	717.9
27.5°	742.9	738.5	734.1	729.6	725.2	718.9	710.7	702.5	694.3	686.1	681.4
30°	722.7	717.9	713.1	708.3	703.5	696.5	687.6	678.6	669.6	660.6	655.2
32.5°	702.5	697.1	691.6	686.2	680.7	673.3	663.7	654.2	644.7	635.2	629.2
35°	668.5	662.8	657.0	651.3	645.5	637.6	627.6	617.7	607.8	597.9	590.9
37.5°	634.2	627.8	621.4	614.9	608.5	600.0	589.4	578.8	568.2	557.5	549.7
40°	612.3	605.2	598.1	591.1	584.0	574.8	563.5	552.0	540.6	529.2	520.8
42.5°	587.4	580.3	573.3	566.3	559.2	549.8	538.0	526.2	514.4	502.7	493.5
45°	549.4	542.2	535.0	527.8	520.6	510.8	498.4	486.1	473.7	461.4	452.2
47.5°	511.4	503.5	495.6	487.7	479.8	469.7	457.2	444.9	432.5	420.2	410.3
50°	483.7	476.2	468.6	461.1	453.6	443.3	430.3	417.4	404.4	391.3	381.4
52.5°	458.9	450.7	442.5	434.3	426.2	415.7	402.7	389.9	377.0	364.2	353.8
55°	417.4	409.4	401.6	393.7	385.9	375.1	361.5	347.9	334.2	320.6	311.2
57.5°	378.9	370.3	361.7	353.2	344.6	333.5	319.8	306.1	292.4	278.7	269.9
60°	352.3	343.6	334.7	325.8	317.1	305.9	292.7	279.4	266.0	252.7	244.0
62.5°	325.7	317.0	308.1	299.3	290.5	279.4	266.1	252.8	239.4	226.1	218.0
65°	285.2	276.4	267.6	258.7	249.9	239.2	226.7	214.2	201.7	189.2	181.3
67.5°	244.6	235.7	226.8	217.8	209.0	198.5	186.4	174.5	162.5	150.4	144.6
70°	218.0	209.3	200.8	192.1	183.4	173.4	162.2	151.0	139.8	128.6	122.9
72.5°	191.4	182.9	174.4	165.9	157.3	148.0	137.8	127.5	117.3	107.2	102.5
75°	150.9	143.2	135.5	127.8	120.1	111.8	103.0	94.2	85.4	76.5	74.9
77.5°	114.0	107.0	100.0	93.0	86.1	79.7	74.1	68.4	62.7	57.0	56.2
80°	90.3	83.7	77.1	70.5	63.9	59.0	55.6	52.2	48.8	45.5	45.0
82.5°	67.8	62.0	56.4	50.7	45.0	41.4	39.8	38.3	36.7	35.1	34.6
85°	38.3	34.8	31.2	27.7	24.1	22.1	21.7	21.2	20.7	20.2	19.9
87.5°	14.0	13.1	12.1	11.1	10.1	9.9	10.5	11.0	11.5	12.1	12.2
90°	0.9	3.1	5.2	7.4	9.4	11.9	14.6	17.4	20.2	22.9	23.8
92.5°	23.1	24.5	26.0	27.4	28.8	30.3	32.0	33.6	35.1	36.7	37.3
95°	56.4	57.8	59.3	60.8	62.3	63.9	65.6	67.3	69.0	70.7	71.5
97.5°	100.1	101.1	102.3	103.4	104.5	105.7	106.9	108.1	109.3	110.6	111.6
100°	129.9	131.1	132.4	133.7	135.0	136.1	137.2	138.3	139.3	140.3	141.0
102.5°	164.3	165.0	165.8	166.5	167.3	168.3	169.8	171.2	172.6	174.0	174.7
105°	214.9	215.3	215.7	216.1	216.6	217.7	219.6	221.5	223.5	225.4	225.4
107.5°	273.7	273.9	274.2	274.5	274.7	275.2	276.0	276.7	277.5	278.2	278.9
110°	310.4	310.8	311.2	311.6	312.1	312.5	312.9	313.3	313.8	314.1	315.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	348.6	348.8	349.0	349.3	349.6	349.7	349.8	349.9	350.0	350.1	351.1
115°	405.9	406.4	407.1	407.7	408.4	408.5	408.0	407.6	407.2	406.8	407.0
117.5°	463.5	463.9	464.4	464.8	465.2	465.1	464.6	464.0	463.4	463.0	462.9
120°	499.5	500.7	502.0	503.2	504.5	504.6	503.5	502.5	501.4	500.4	500.1
122.5°	536.9	537.8	538.8	539.6	540.5	540.7	540.3	539.7	539.1	538.6	538.0
125°	594.0	594.6	595.2	595.9	596.5	596.6	596.2	595.8	595.3	594.9	594.1
127.5°	646.7	648.0	649.4	650.7	652.1	652.5	652.1	651.6	651.1	650.6	649.5
130°	681.8	683.5	685.2	686.9	688.6	689.1	688.5	687.9	687.2	686.5	685.7
132.5°	716.9	718.6	720.3	722.1	723.8	724.3	723.9	723.4	722.9	722.5	721.4
135°	770.6	771.8	773.2	774.4	775.7	776.2	776.0	775.8	775.6	775.3	774.5
137.5°	820.3	821.3	822.4	823.4	824.5	825.3	825.9	826.4	827.0	827.6	826.6
140°	854.6	855.7	856.8	857.8	858.8	859.5	859.7	860.0	860.2	860.4	860.2
142.5°	886.0	887.0	888.1	889.1	890.2	890.9	891.3	891.6	892.1	892.5	892.2
145°	934.8	935.3	935.7	936.1	936.5	937.1	937.7	938.4	939.0	939.6	939.4
147.5°	977.6	978.4	979.1	980.0	980.7	981.4	981.9	982.6	983.2	983.7	983.7
150°	1007.4	1007.9	1008.2	1008.7	1009.1	1009.6	1009.9	1010.4	1010.8	1011.3	1011.3
152.5°	1031.9	1032.5	1033.0	1033.7	1034.3	1034.6	1034.9	1035.2	1035.5	1035.7	1036.0
155°	1070.4	1070.4	1070.4	1070.4	1070.4	1070.5	1070.7	1071.0	1071.2	1071.4	1072.2
157.5°	1103.3	1103.1	1102.8	1102.5	1102.3	1102.2	1102.4	1102.6	1102.8	1102.9	1103.8
160°	1123.9	1123.5	1123.0	1122.7	1122.2	1122.0	1122.0	1122.0	1122.0	1122.0	1123.0
162.5°	1142.3	1141.7	1141.0	1140.5	1139.9	1139.6	1139.8	1140.0	1140.2	1140.4	1141.4
165°	1165.9	1165.3	1164.7	1164.0	1163.4	1163.1	1163.1	1163.1	1163.1	1163.1	1164.3
167.5°	1184.9	1184.0	1183.2	1182.3	1181.5	1181.1	1181.3	1181.5	1181.7	1181.8	1183.1
170°	1195.5	1194.7	1193.8	1193.0	1192.1	1191.8	1191.8	1191.8	1191.8	1191.8	1193.2
172.5°	1203.9	1203.1	1202.2	1201.4	1200.5	1200.1	1200.1	1200.1	1200.1	1200.1	1201.5
175°	1212.8	1211.9	1211.1	1210.2	1209.4	1208.9	1208.9	1208.9	1208.9	1208.9	1210.2
177.5°	1216.4	1215.7	1215.0	1214.3	1213.6	1213.3	1213.3	1213.3	1213.3	1213.3	1214.3
180°	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	890.2	890.2	890.2	890.2	890.2	890.2	890.2	890.2
2.5°	886.7	888.2	889.6	890.1	889.9	889.6	889.4	889.1
5°	880.8	882.3	883.7	884.3	884.0	883.6	883.4	883.0
7.5°	868.5	869.2	870.1	870.2	869.6	869.1	868.6	868.0
10°	857.3	857.5	857.6	857.3	856.6	855.7	855.0	854.1
12.5°	843.6	843.5	843.4	842.8	841.9	840.9	840.1	839.1
15°	819.4	818.5	817.7	816.7	815.6	814.5	813.4	812.3
17.5°	790.4	788.7	786.9	785.3	783.6	781.9	780.2	778.6
20°	770.5	768.5	766.4	764.4	762.4	760.5	758.6	756.7
22.5°	749.3	746.7	744.1	741.9	740.1	738.3	736.5	734.7
25°	714.5	711.1	707.8	705.2	703.5	701.7	699.9	698.1
27.5°	676.7	672.0	667.3	663.6	660.9	658.3	655.5	652.8
30°	649.7	644.2	638.9	634.8	632.3	629.7	627.1	624.5
32.5°	623.3	617.3	611.3	607.0	604.4	601.6	598.9	596.3
35°	584.0	577.1	570.2	565.3	562.4	559.6	556.7	553.7
37.5°	541.9	534.0	526.2	520.6	517.0	513.4	509.8	506.2
40°	512.6	504.2	495.9	489.8	486.2	482.5	478.8	475.0
42.5°	484.5	475.3	466.2	460.0	456.7	453.4	450.1	446.8
45°	443.1	433.9	424.8	418.3	414.4	410.6	406.7	402.8
47.5°	400.3	390.4	380.4	373.7	370.3	366.8	363.4	360.0
50°	371.5	361.5	351.6	344.7	341.0	337.3	333.7	330.0
52.5°	343.6	333.2	322.8	316.0	312.7	309.4	306.1	302.8
55°	302.0	292.7	283.3	277.1	273.9	270.7	267.5	264.3
57.5°	261.1	252.3	243.6	237.8	235.1	232.3	229.6	226.9
60°	235.4	226.7	218.0	212.4	209.6	206.9	204.2	201.4
62.5°	209.8	201.7	193.5	188.0	185.2	182.3	179.5	176.6
65°	173.4	165.6	157.7	152.9	151.2	149.4	147.6	145.8
67.5°	138.7	132.8	127.0	123.1	121.2	119.3	117.4	115.6
70°	117.3	111.7	106.0	102.4	100.6	98.9	97.1	95.3
72.5°	97.9	93.4	88.8	86.1	85.4	84.6	83.9	83.1
75°	73.3	71.7	70.1	69.2	68.8	68.5	68.1	67.9
77.5°	55.3	54.5	53.5	53.0	52.7	52.3	52.0	51.7
80°	44.5	44.0	43.5	43.2	42.9	42.5	42.2	41.8
82.5°	34.1	33.6	33.2	32.9	32.8	32.8	32.7	32.6
85°	19.6	19.2	18.9	18.8	18.8	18.8	18.8	18.8
87.5°	12.2	12.3	12.3	12.3	12.3	12.2	12.2	12.1
90°	24.6	25.4	26.3	27.0	27.3	27.8	28.2	28.7
92.5°	38.0	38.7	39.4	39.6	39.3	39.1	38.8	38.5
95°	72.4	73.2	74.1	74.5	74.5	74.5	74.5	74.5
97.5°	112.5	113.5	114.5	114.9	114.8	114.8	114.7	114.6
100°	141.7	142.3	142.9	143.5	143.8	144.3	144.7	145.2
102.5°	175.2	175.9	176.5	176.8	176.7	176.6	176.5	176.4
105°	225.4	225.4	225.4	225.6	226.0	226.4	226.9	227.2
107.5°	279.7	280.3	281.0	281.2	281.0	280.7	280.4	280.1
110°	315.8	316.7	317.5	317.7	317.4	316.9	316.5	316.0



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CATALOG NUMBER: S123RDIW-S560D1030U830-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	352.1	353.1	354.1	354.6	354.5	354.4	354.4	354.3
115°	407.2	407.5	407.6	407.6	407.5	407.2	407.0	406.8
117.5°	462.9	462.8	462.8	462.4	461.8	461.3	460.6	460.1
120°	499.9	499.7	499.5	499.2	498.8	498.3	497.9	497.5
122.5°	537.4	536.9	536.4	535.7	535.2	534.6	534.0	533.4
125°	593.2	592.4	591.5	590.7	589.8	589.0	588.1	587.3
127.5°	648.3	647.1	645.9	644.8	643.9	642.9	641.9	640.9
130°	684.9	684.0	683.2	682.0	680.5	679.0	677.6	676.1
132.5°	720.5	719.4	718.4	717.4	716.1	715.0	713.9	712.8
135°	773.6	772.8	771.9	771.4	770.9	770.5	770.1	769.7
137.5°	825.8	824.8	824.0	823.1	822.3	821.5	820.7	819.9
140°	860.0	859.7	859.5	858.7	857.1	855.7	854.2	852.7
142.5°	892.0	891.8	891.6	890.9	889.8	888.6	887.5	886.4
145°	939.2	939.0	938.8	938.2	937.4	936.5	935.7	934.8
147.5°	983.7	983.7	983.7	983.1	981.8	980.5	979.3	978.0
150°	1011.3	1011.3	1011.3	1010.6	1009.4	1008.0	1006.8	1005.5
152.5°	1036.3	1036.7	1037.1	1036.7	1035.6	1034.4	1033.3	1032.3
155°	1073.1	1073.9	1074.8	1074.5	1073.0	1071.5	1070.1	1068.6
157.5°	1104.7	1105.6	1106.5	1106.4	1105.1	1104.0	1102.8	1101.5
160°	1124.2	1125.2	1126.2	1126.3	1125.5	1124.6	1123.8	1122.9
162.5°	1142.5	1143.5	1144.6	1144.4	1143.1	1141.7	1140.4	1139.0
165°	1165.6	1166.9	1168.2	1168.1	1166.6	1165.1	1163.6	1162.2
167.5°	1184.4	1185.7	1187.0	1187.0	1185.7	1184.4	1183.1	1181.8
170°	1194.7	1196.2	1197.7	1197.7	1196.2	1194.7	1193.2	1191.8
172.5°	1202.8	1204.1	1205.4	1205.3	1203.8	1202.3	1200.8	1199.4
175°	1211.4	1212.8	1214.0	1213.9	1212.4	1210.9	1209.5	1208.0
177.5°	1215.3	1216.4	1217.4	1217.3	1216.1	1214.9	1213.7	1212.6
180°	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6	1215.6

(END OF REPORT)