

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: P332420-830

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332420-830
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-S560D1030U830-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1030 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5900.5 lumens
Efficiency: N/A
Efficacy: 130.5 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

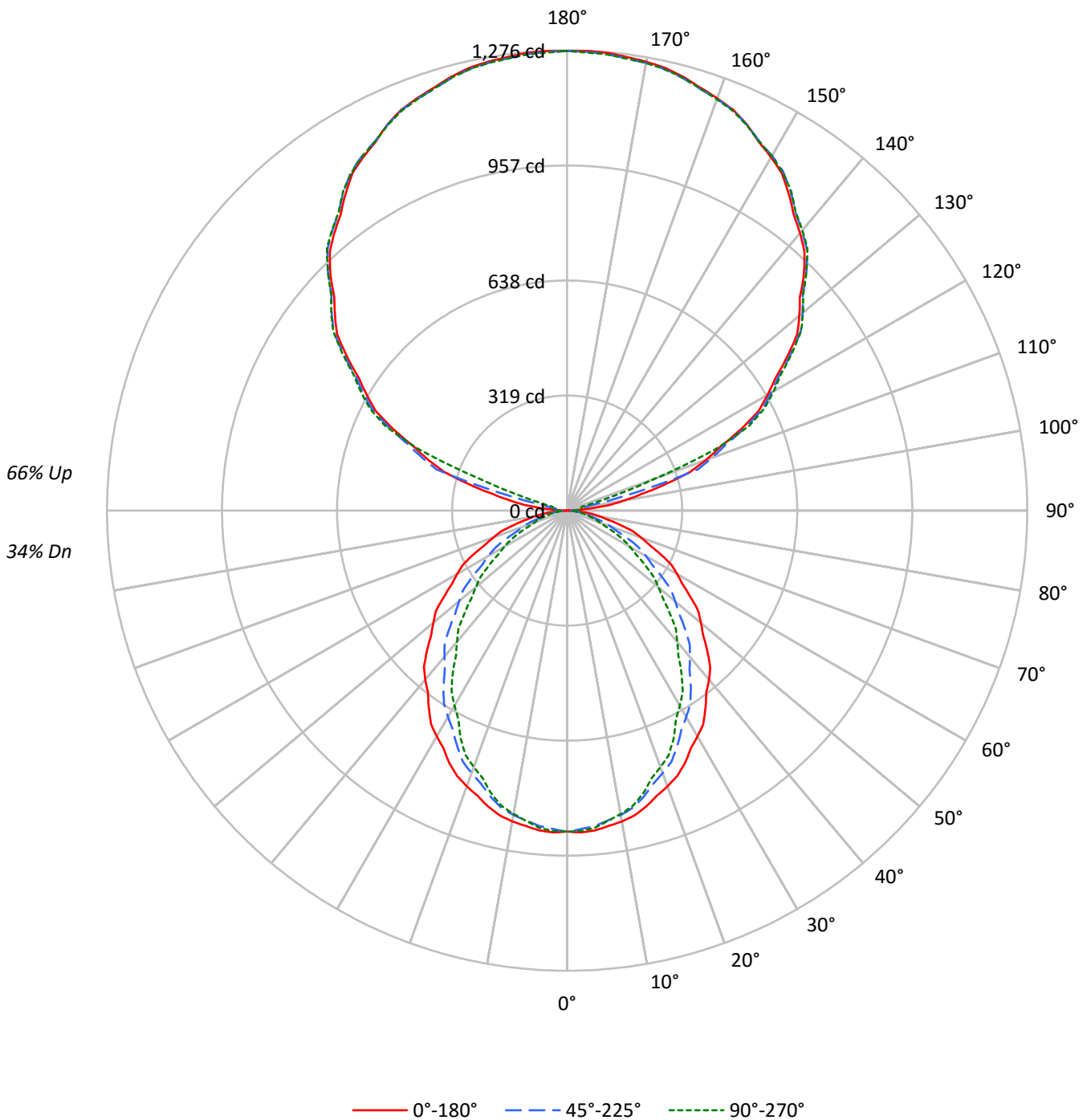
Input Watts (W): 45.2
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	103	103	103	103	93	93	93	93	75	75	75	57	57	57	42	42	42
1	94	90	87	83	85	82	79	76	66	63	61	51	49	48	37	36	35
2	86	79	73	68	78	72	67	62	58	54	51	45	42	40	33	31	30
3	79	70	63	57	71	63	57	52	51	47	43	40	37	34	29	27	26
4	72	62	54	48	65	56	50	44	45	41	37	35	32	30	26	24	22
5	66	55	47	41	59	50	43	38	41	36	32	32	28	26	24	21	20
6	61	49	41	36	55	45	38	33	37	32	28	29	25	23	22	19	17
7	56	44	37	31	51	41	34	29	33	28	24	26	23	20	20	17	15
8	52	40	33	28	47	37	30	26	30	25	22	24	20	18	18	16	14
9	48	37	29	25	44	34	27	23	28	23	19	22	19	16	17	14	13
10	45	34	27	22	41	31	25	20	25	21	17	20	17	14	16	13	11

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	1.4
10°-20°	232.6	3.9
20°-30°	334.9	5.7
30°-40°	377.3	6.4
40°-50°	360.9	6.1
50°-60°	295.6	5.0
60°-70°	199.4	3.4
70°-80°	100.3	1.7
80°-90°	30.1	0.5
90°-100°	46.3	0.8
100°-110°	220.8	3.7
110°-120°	530.4	9.0
120°-130°	675.4	11.4
130°-140°	721.6	12.2
140°-150°	674.8	11.4
150°-160°	544.3	9.2
160°-170°	351.3	6.0
170°-180°	121.1	2.1
0°-30°	651.1	11.0
0°-40°	1028.4	17.4
0°-60°	1684.8	28.6
0°-90°	2014.7	34.1
90°-120°	797.5	13.5
90°-150°	2869.2	48.6
90°-180°	3886.0	65.9
0°-180°	5900.5	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	26	28	5
95°	58	22	29	36	36	71
105°	282	287	207	49	42	299
115°	529	535	543	553	557	522
125°	746	753	757	759	761	666
135°	929	934	938	941	938	715
145°	1072	1078	1080	1082	1082	671
155°	1180	1179	1180	1184	1179	544
165°	1245	1242	1241	1248	1242	352
175°	1274	1270	1270	1276	1270	121
180°	1274	1274	1274	1274	1274	



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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	10.4	10.9	11.5	12.1	12.1
90°	0.9	3.0	5.2	7.3	9.3	11.8	14.5	17.2	20.0	22.7	23.6
92.5°	17.6	17.1	16.4	15.8	15.3	16.0	18.1	20.1	22.1	24.2	25.5
95°	57.8	49.1	40.5	31.9	23.3	20.1	22.4	24.7	27.1	29.3	30.8
97.5°	116.0	112.2	108.3	104.4	100.6	91.0	76.0	60.8	45.6	30.4	32.1
100°	159.9	164.2	168.4	172.6	176.8	162.5	129.7	96.9	64.1	31.2	32.9
102.5°	210.0	213.0	216.0	219.0	222.1	205.7	169.8	134.0	98.1	62.3	57.1
105°	282.1	284.5	286.7	289.1	291.3	283.0	264.1	245.2	226.3	207.4	170.1
107.5°	358.3	360.1	361.9	363.8	365.6	368.1	371.1	374.0	377.0	380.0	352.7
110°	409.0	410.7	412.4	414.1	415.7	417.7	420.0	422.4	424.6	427.0	420.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	457.4	458.9	460.4	462.0	463.5	465.4	467.7	470.0	472.4	474.7	474.8
115°	529.2	530.5	531.7	533.0	534.2	535.8	537.7	539.6	541.5	543.4	545.5
117.5°	598.7	600.2	601.8	603.3	604.9	606.1	607.2	608.1	609.1	610.0	611.7
120°	641.9	643.8	645.6	647.5	649.4	650.7	651.3	652.0	652.6	653.2	654.9
122.5°	685.8	687.3	688.9	690.4	692.0	693.1	694.0	694.7	695.6	696.4	697.6
125°	746.0	747.7	749.3	751.0	752.7	754.0	754.8	755.6	756.5	757.3	757.8
127.5°	804.3	806.0	807.7	809.4	811.1	812.4	813.4	814.5	815.4	816.4	817.1
130°	840.7	842.4	844.0	845.7	847.4	848.7	849.5	850.4	851.2	852.1	852.9
132.5°	875.5	877.2	878.8	880.5	882.2	883.4	884.1	884.8	885.4	886.1	886.9
135°	928.7	930.0	931.2	932.5	933.8	934.8	935.7	936.5	937.4	938.2	938.8
137.5°	974.1	975.7	977.3	978.9	980.5	981.6	982.0	982.5	983.0	983.4	984.4
140°	1004.5	1005.7	1007.0	1008.2	1009.5	1010.4	1011.1	1011.7	1012.3	1013.0	1013.8
142.5°	1032.5	1033.7	1035.0	1036.2	1037.6	1038.5	1039.1	1039.7	1040.4	1040.9	1041.7
145°	1071.7	1073.1	1074.6	1076.1	1077.5	1078.5	1078.9	1079.3	1079.8	1080.2	1080.6
147.5°	1108.6	1109.6	1110.5	1111.4	1112.5	1113.1	1113.5	1114.0	1114.4	1114.8	1115.2
150°	1131.3	1131.9	1132.6	1133.2	1133.8	1134.3	1134.7	1135.2	1135.6	1136.0	1136.4
152.5°	1151.8	1152.1	1152.4	1152.6	1152.9	1153.2	1153.5	1153.7	1154.0	1154.2	1155.0
155°	1180.5	1180.1	1179.7	1179.3	1178.8	1178.7	1178.9	1179.1	1179.4	1179.6	1180.6
157.5°	1202.9	1202.9	1202.8	1202.8	1202.7	1202.6	1202.4	1202.1	1201.9	1201.7	1203.0
160°	1216.5	1216.3	1216.1	1215.9	1215.7	1215.4	1215.2	1215.0	1214.8	1214.7	1215.9
162.5°	1229.4	1228.8	1228.3	1227.8	1227.2	1226.8	1226.6	1226.4	1226.2	1226.0	1227.4
165°	1244.9	1244.3	1243.7	1243.0	1242.4	1242.0	1241.7	1241.5	1241.3	1241.1	1242.8
167.5°	1257.0	1256.2	1255.4	1254.5	1253.7	1253.2	1253.2	1253.2	1253.2	1253.2	1254.9
170°	1263.9	1263.0	1262.2	1261.3	1260.5	1260.1	1260.1	1260.1	1260.1	1260.1	1261.7
172.5°	1268.4	1267.3	1266.4	1265.4	1264.3	1263.9	1264.0	1264.2	1264.4	1264.6	1266.3
175°	1274.2	1273.2	1272.1	1271.1	1270.1	1269.6	1269.8	1270.1	1270.3	1270.5	1272.0
177.5°	1275.7	1274.9	1274.1	1273.3	1272.4	1272.1	1272.2	1272.4	1272.5	1272.7	1274.1
180°	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2



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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	12.2	12.3	12.3	12.2	12.2	12.1	12.1
90°	24.4	25.3	26.1	26.7	27.1	27.5	28.0	28.4
92.5°	27.0	28.3	29.6	30.4	30.6	30.9	31.2	31.4
95°	32.3	33.7	35.3	36.0	36.0	36.0	36.0	36.0
97.5°	33.8	35.5	37.2	38.2	38.4	38.5	38.8	39.0
100°	34.6	36.3	38.0	38.9	39.1	39.3	39.6	39.8
102.5°	51.8	46.7	41.4	39.0	39.4	39.8	40.2	40.5
105°	132.9	95.6	58.3	40.0	40.4	40.8	41.2	41.7
107.5°	325.4	298.1	270.8	243.1	215.0	187.0	158.9	130.8
110°	413.1	406.1	399.2	380.7	350.6	320.5	290.4	260.3



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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	474.9	475.0	475.1	472.0	465.7	459.4	453.0	446.7
115°	547.6	549.7	551.9	553.3	554.1	555.0	555.8	556.7
117.5°	613.4	615.1	616.8	617.7	617.8	618.0	618.2	618.4
120°	656.6	658.3	660.0	660.8	660.8	660.8	660.8	660.8
122.5°	698.7	699.9	701.1	701.8	701.9	702.1	702.3	702.5
125°	758.2	758.7	759.0	759.5	759.9	760.3	760.7	761.1
127.5°	817.7	818.4	819.2	819.3	818.8	818.4	818.0	817.6
130°	853.8	854.5	855.4	855.6	855.2	854.8	854.3	853.9
132.5°	887.8	888.6	889.5	889.6	889.0	888.4	887.9	887.2
135°	939.4	940.1	940.7	940.7	940.1	939.4	938.8	938.2
137.5°	985.4	986.5	987.5	987.8	987.3	986.9	986.5	986.1
140°	1014.6	1015.5	1016.3	1016.5	1016.2	1015.7	1015.3	1014.8
142.5°	1042.4	1043.0	1043.7	1043.7	1043.1	1042.5	1042.0	1041.3
145°	1081.0	1081.5	1081.9	1082.0	1082.0	1082.0	1082.0	1082.0
147.5°	1115.7	1116.1	1116.5	1116.3	1115.3	1114.3	1113.3	1112.4
150°	1136.9	1137.3	1137.7	1137.6	1137.0	1136.3	1135.8	1135.1
152.5°	1155.7	1156.5	1157.3	1157.2	1156.1	1155.2	1154.2	1153.3
155°	1181.7	1182.7	1183.8	1183.6	1182.4	1181.2	1179.9	1178.6
157.5°	1204.3	1205.5	1206.7	1206.5	1204.9	1203.3	1201.6	1200.0
160°	1217.1	1218.4	1219.7	1219.6	1218.0	1216.6	1215.1	1213.6
162.5°	1228.8	1230.3	1231.7	1231.7	1230.5	1229.2	1227.9	1226.5
165°	1244.4	1246.1	1247.8	1247.9	1246.5	1245.0	1243.5	1242.1
167.5°	1256.6	1258.3	1260.0	1260.0	1258.3	1256.6	1254.9	1253.2
170°	1263.4	1265.1	1266.8	1266.8	1265.1	1263.4	1261.7	1260.1
172.5°	1268.0	1269.6	1271.3	1271.2	1269.4	1267.5	1265.6	1263.9
175°	1273.4	1274.9	1276.4	1276.3	1274.6	1272.9	1271.2	1269.5
177.5°	1275.4	1276.8	1278.1	1278.0	1276.3	1274.6	1272.9	1271.2
180°	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2	1274.2

(END OF REPORT)