

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: P332140-935

Luminaire Tested: **S123DIW-S560D1320U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332140-935
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-S560D1320U935-4F0-1E-UDD-D
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1320 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6583.0 lumens
Efficiency: N/A
Efficacy: 122.4 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

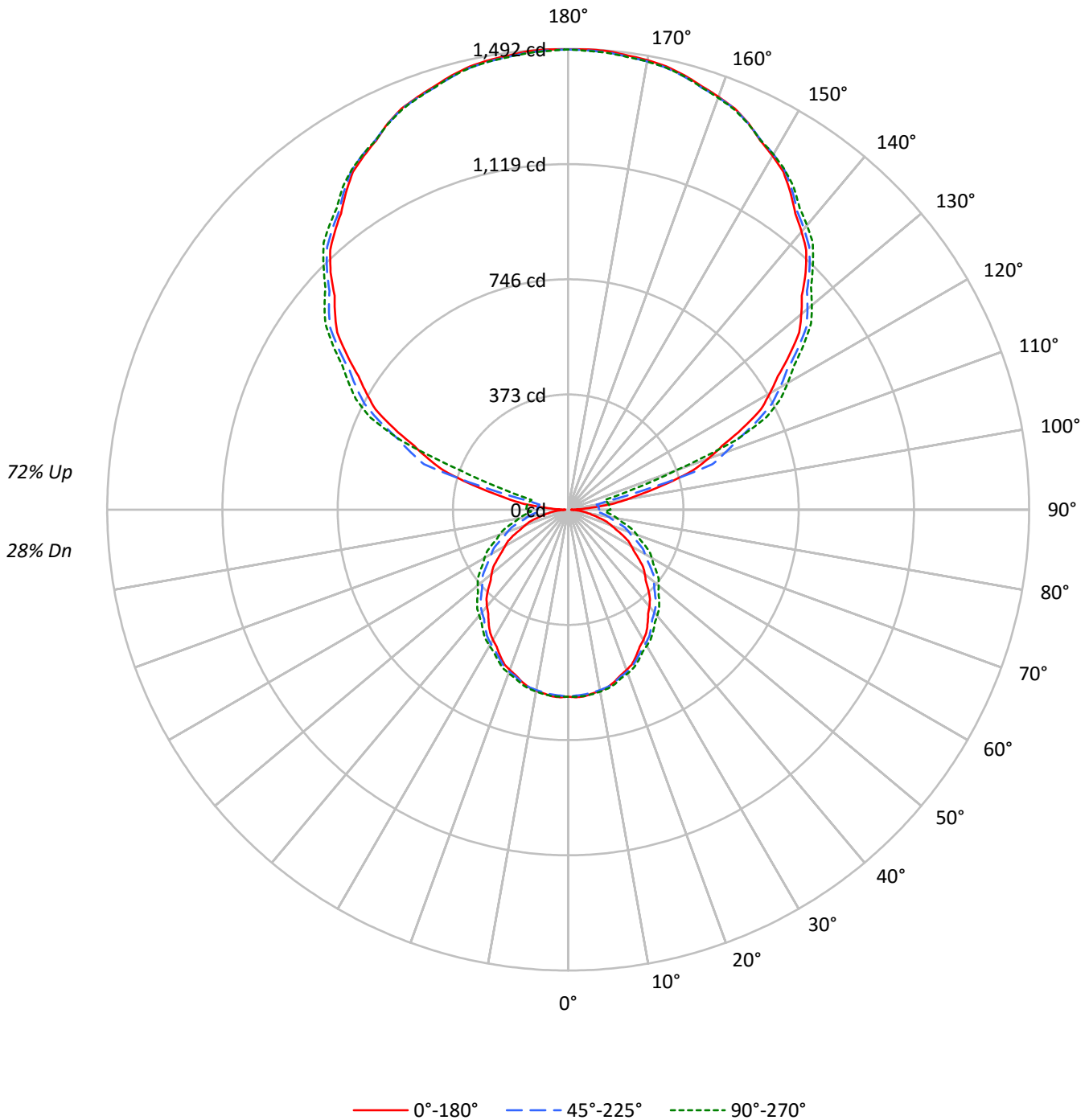
Input Watts (W): 53.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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CATALOG NUMBER: S123DIW-S560D1320U935-4F0-1E-UDD-D

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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	28
1	92	88	84	80	82	79	75	72	61	59	57	46	44	43	31	30	29	23
2	84	76	70	65	75	68	63	59	53	50	47	40	37	35	27	26	24	18
3	76	67	60	54	68	60	54	49	47	43	39	35	32	29	24	22	20	15
4	70	59	51	45	62	53	46	41	41	37	33	31	28	25	21	19	17	13
5	64	52	44	38	57	47	40	35	37	32	28	28	24	21	19	17	15	11
6	59	47	39	33	52	42	35	30	33	28	24	25	21	19	17	15	13	10
7	54	42	34	29	48	38	31	26	30	25	21	22	19	16	16	13	12	9
8	50	38	30	25	45	34	28	23	27	22	19	20	17	14	14	12	10	8
9	46	34	27	22	41	31	25	20	25	20	17	19	15	13	13	11	9	7
10	43	31	24	20	39	28	22	18	23	18	15	17	14	12	12	10	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6518	6518	6518
5°	6537	6352	6357
10°	6480	6207	6175
15°	6395	6040	5978
20°	6277	5850	5760
25°	6129	5632	5532
30°	5977	5436	5300
35°	5809	5228	5116
40°	5647	5038	4917
45°	5468	4857	4759
50°	5291	4678	4584
55°	5097	4494	4428
60°	4906	4308	4266
65°	4710	4109	4076
70°	4418	3885	3878
75°	4048	3629	3679
80°	3620	3378	3451
85°	3222	3204	3317



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	57.4	0.9
10°-20°	163.6	2.5
20°-30°	244.7	3.7
30°-40°	292.2	4.4
40°-50°	305.8	4.6
50°-60°	286.9	4.4
60°-70°	239.6	3.6
70°-80°	171.5	2.6
80°-90°	106.4	1.6
90°-100°	118.3	1.8
100°-110°	305.4	4.6
110°-120°	651.7	9.9
120°-130°	807.8	12.3
130°-140°	851.9	12.9
140°-150°	790.8	12.0
150°-160°	636.5	9.7
160°-170°	410.8	6.2
170°-180°	141.6	2.2
0°-30°	465.7	7.1
0°-40°	758.0	11.5
0°-60°	1350.7	20.5
0°-90°	1868.2	28.4
90°-120°	1075.4	16.3
90°-150°	3525.9	53.6
90°-180°	4715.0	71.6
0°-180°	6583.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	606	606	606	606	606	
5°	606	605	601	606	606	57
15°	577	579	578	585	584	162
25°	521	527	530	538	538	240
35°	448	459	468	477	480	280
45°	367	383	399	411	417	283
55°	280	302	325	342	348	250
65°	193	219	248	267	274	191
75°	105	136	169	190	198	112
85°	32	65	100	122	129	34
90°	10	53	101	127	137	9
95°	75	59	100	127	134	89
105°	335	358	292	125	123	355
115°	622	638	670	696	707	614
125°	874	884	907	922	930	781
135°	1087	1094	1105	1119	1120	837
145°	1254	1261	1263	1270	1273	784
155°	1380	1378	1379	1384	1378	636
165°	1456	1453	1451	1459	1452	411
175°	1490	1485	1486	1493	1485	142
180°	1490	1490	1490	1490	1490	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5
2.5°	608.1	607.8	607.4	607.0	606.7	606.1	605.1	604.2	603.2	602.3	603.2
5°	606.1	605.8	605.5	605.3	604.9	604.3	603.5	602.6	601.8	600.8	602.0
7.5°	600.2	600.2	600.3	600.4	600.5	600.0	599.2	598.3	597.4	596.6	598.1
10°	595.0	595.2	595.5	595.8	596.1	595.9	595.1	594.4	593.7	593.0	594.4
12.5°	588.6	589.0	589.4	589.8	590.2	590.2	589.7	589.2	588.7	588.1	589.5
15°	577.1	577.6	578.0	578.4	578.9	579.0	578.9	578.7	578.6	578.4	579.9
17.5°	562.6	563.4	564.4	565.2	566.1	566.5	566.5	566.4	566.4	566.3	567.6
20°	552.1	552.9	553.8	554.7	555.5	556.1	556.5	556.7	557.0	557.3	558.6
22.5°	541.0	541.8	542.7	543.6	544.5	545.1	545.5	546.0	546.4	546.7	548.5
25°	521.1	522.5	524.0	525.5	526.9	527.9	528.3	528.7	529.2	529.6	531.5
27.5°	501.0	502.7	504.4	506.0	507.6	508.9	509.9	510.8	511.8	512.7	514.4
30°	486.7	488.6	490.5	492.5	494.4	495.9	497.1	498.3	499.4	500.6	502.4
32.5°	470.9	473.0	475.2	477.3	479.5	481.3	482.8	484.3	485.9	487.4	489.3
35°	448.5	450.8	453.1	455.6	457.9	460.0	461.9	463.8	465.7	467.6	469.8
37.5°	424.7	427.4	430.0	432.7	435.3	437.8	440.1	442.5	444.8	447.2	449.7
40°	408.9	411.6	414.2	416.8	419.5	422.2	425.2	428.1	431.0	433.9	436.4
42.5°	391.5	394.8	398.0	401.1	404.4	407.5	410.6	413.6	416.7	419.7	422.5
45°	366.7	370.2	373.8	377.3	380.7	384.4	388.1	391.7	395.4	399.0	401.8
47.5°	340.7	344.7	348.7	352.7	356.6	360.8	365.0	369.1	373.3	377.5	380.6
50°	323.8	328.0	332.0	336.1	340.3	344.6	349.1	353.7	358.2	362.7	366.1
52.5°	305.9	310.2	314.6	318.9	323.2	328.0	332.9	337.9	342.9	348.0	351.5
55°	279.7	284.5	289.3	294.1	299.0	304.0	309.4	314.6	319.9	325.1	329.1
57.5°	254.1	259.1	264.2	269.1	274.2	279.7	285.4	291.2	297.0	302.7	306.7
60°	236.1	241.4	246.7	251.9	257.2	262.9	268.9	274.9	280.9	286.9	291.0
62.5°	219.2	224.6	230.1	235.4	240.8	246.7	253.0	259.4	265.8	272.2	276.2
65°	193.2	199.0	204.7	210.4	216.1	222.2	228.7	235.1	241.5	248.0	252.4
67.5°	166.9	173.0	179.0	185.0	191.1	197.4	204.1	210.6	217.1	223.7	228.5
70°	148.4	154.7	161.0	167.3	173.6	180.3	187.3	194.3	201.4	208.4	213.1
72.5°	131.5	137.8	144.1	150.4	156.7	163.5	170.7	178.1	185.3	192.6	197.4
75°	104.9	111.8	118.6	125.5	132.4	139.6	146.9	154.2	161.5	168.8	173.7
77.5°	81.6	88.6	95.6	102.5	109.4	116.6	124.0	131.4	138.8	146.2	151.3
80°	65.3	72.5	79.6	86.9	94.0	101.4	109.0	116.7	124.3	131.9	136.9
82.5°	51.1	58.4	65.6	72.9	80.2	87.7	95.5	103.2	111.0	118.7	123.7
85°	32.3	39.6	47.0	54.3	61.6	69.1	77.0	84.7	92.5	100.2	105.2
87.5°	17.7	25.6	33.3	41.2	48.9	56.9	65.0	73.1	81.2	89.4	94.5
90°	9.6	19.3	28.9	38.6	48.2	58.4	69.1	79.7	90.4	101.1	107.1
92.5°	28.7	34.4	40.2	46.0	51.8	59.6	69.3	79.1	88.9	98.7	105.1
95°	74.8	70.4	66.0	61.6	57.3	60.1	69.9	79.8	89.7	99.6	105.9
97.5°	142.2	142.8	143.4	144.1	144.7	139.7	128.7	117.9	107.0	96.2	102.5
100°	193.0	202.7	212.2	221.9	231.4	220.5	188.8	157.2	125.5	93.9	100.1
102.5°	251.0	258.7	266.5	274.2	282.0	268.3	233.0	197.7	162.4	127.1	125.1
105°	335.2	341.4	347.7	353.9	360.1	355.2	339.4	323.6	307.7	291.9	252.4
107.5°	423.4	428.6	433.7	438.9	444.0	451.3	460.8	470.3	479.7	489.2	461.2
110°	482.2	486.8	491.5	496.0	500.7	507.2	515.8	524.3	533.0	541.5	537.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	538.9	542.9	546.8	550.7	554.7	560.8	569.1	577.5	585.8	594.2	598.0
115°	622.2	625.4	628.6	631.9	635.1	640.5	648.0	655.5	663.0	670.5	676.4
117.5°	703.3	706.2	709.1	712.0	714.9	719.5	725.5	731.6	737.7	743.7	749.2
120°	753.3	756.2	759.1	762.1	765.0	769.3	774.9	780.4	786.0	791.6	796.9
122.5°	804.6	806.8	809.0	811.2	813.4	817.3	822.9	828.4	833.9	839.5	844.0
125°	874.3	876.3	878.3	880.3	882.3	885.9	891.0	896.3	901.6	906.8	910.3
127.5°	942.5	944.4	946.2	948.0	949.9	953.1	957.8	962.5	967.2	971.9	975.6
130°	985.1	986.9	988.7	990.6	992.4	995.2	999.2	1003.1	1006.9	1010.9	1014.7
132.5°	1025.3	1027.3	1029.2	1031.1	1033.0	1035.6	1038.7	1041.8	1045.0	1048.1	1051.8
135°	1087.4	1088.7	1090.0	1091.4	1092.7	1094.7	1097.3	1099.8	1102.4	1105.0	1108.5
137.5°	1140.4	1142.1	1143.9	1145.6	1147.4	1149.0	1150.5	1151.9	1153.3	1154.8	1158.3
140°	1175.3	1176.7	1178.3	1179.7	1181.2	1182.5	1183.7	1184.9	1186.0	1187.2	1190.4
142.5°	1208.1	1209.4	1210.7	1212.1	1213.5	1214.6	1215.4	1216.2	1217.0	1217.9	1220.6
145°	1253.9	1255.5	1257.1	1258.6	1260.2	1261.2	1261.7	1262.2	1262.7	1263.2	1264.9
147.5°	1296.4	1297.5	1298.6	1299.8	1301.0	1301.7	1302.3	1302.7	1303.2	1303.7	1304.6
150°	1323.0	1323.7	1324.5	1325.2	1325.9	1326.5	1327.1	1327.5	1328.0	1328.5	1329.0
152.5°	1346.9	1347.2	1347.6	1347.9	1348.2	1348.6	1348.9	1349.2	1349.4	1349.8	1350.7
155°	1380.5	1380.1	1379.6	1379.1	1378.5	1378.5	1378.7	1379.0	1379.2	1379.4	1380.7
157.5°	1406.7	1406.6	1406.6	1406.5	1406.4	1406.4	1406.1	1405.8	1405.6	1405.3	1406.8
160°	1422.6	1422.4	1422.1	1421.9	1421.6	1421.4	1421.2	1420.9	1420.6	1420.4	1421.9
162.5°	1437.7	1437.0	1436.4	1435.7	1435.1	1434.7	1434.4	1434.2	1433.9	1433.7	1435.4
165°	1455.9	1455.1	1454.3	1453.6	1452.9	1452.4	1452.2	1451.9	1451.6	1451.4	1453.4
167.5°	1470.0	1469.0	1468.0	1467.1	1466.0	1465.6	1465.6	1465.6	1465.6	1465.6	1467.6
170°	1478.0	1477.0	1476.0	1475.1	1474.0	1473.5	1473.5	1473.5	1473.5	1473.5	1475.5
172.5°	1483.3	1482.1	1480.9	1479.7	1478.6	1478.1	1478.3	1478.5	1478.7	1478.9	1480.8
175°	1490.1	1488.9	1487.7	1486.4	1485.2	1484.7	1485.0	1485.2	1485.5	1485.7	1487.5
177.5°	1491.9	1490.9	1490.0	1489.0	1488.0	1487.6	1487.8	1488.0	1488.2	1488.4	1490.0
180°	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	605.5	605.5	605.5	605.5	605.5	605.5	605.5	605.5
2.5°	604.2	605.1	606.1	606.5	606.3	606.2	606.1	606.0
5°	603.2	604.3	605.5	606.1	605.9	605.7	605.6	605.5
7.5°	599.5	601.0	602.5	603.1	603.0	602.8	602.6	602.4
10°	595.9	597.4	598.8	599.3	599.1	598.8	598.5	598.2
12.5°	590.9	592.2	593.6	594.1	593.8	593.5	593.2	593.0
15°	581.3	582.8	584.3	585.0	584.8	584.6	584.5	584.4
17.5°	568.9	570.2	571.5	572.1	571.9	571.7	571.5	571.3
20°	560.0	561.3	562.6	563.4	563.4	563.6	563.8	563.9
22.5°	550.1	551.8	553.5	554.2	554.1	554.1	554.0	553.9
25°	533.4	535.4	537.3	538.2	538.2	538.2	538.2	538.2
27.5°	516.0	517.6	519.3	520.2	520.3	520.4	520.6	520.6
30°	504.1	505.8	507.6	508.5	508.5	508.5	508.5	508.5
32.5°	491.1	493.0	494.9	496.0	496.4	496.7	497.1	497.4
35°	472.0	474.2	476.4	477.8	478.4	479.0	479.6	480.2
37.5°	452.1	454.6	457.1	458.7	459.1	459.5	460.0	460.5
40°	438.9	441.4	443.9	445.5	446.1	446.7	447.2	447.8
42.5°	425.2	427.9	430.7	432.4	433.3	434.0	434.9	435.7
45°	404.6	407.3	410.2	412.2	413.3	414.5	415.7	416.8
47.5°	383.8	386.9	390.0	392.1	393.0	393.9	394.9	395.7
50°	369.5	372.9	376.3	378.4	379.4	380.5	381.5	382.5
52.5°	355.0	358.4	362.0	364.3	365.6	366.8	368.1	369.4
55°	333.0	337.0	341.0	343.5	344.7	345.9	347.1	348.3
57.5°	310.7	314.7	318.7	321.3	322.7	324.1	325.5	326.8
60°	295.2	299.2	303.3	306.2	307.8	309.4	311.0	312.6
62.5°	280.3	284.5	288.5	291.4	292.8	294.3	295.8	297.3
65°	256.8	261.1	265.6	268.5	270.0	271.5	272.9	274.4
67.5°	233.3	238.2	243.0	246.0	247.2	248.4	249.7	250.9
70°	217.8	222.5	227.2	230.2	231.7	233.2	234.6	236.1
72.5°	202.2	207.0	211.8	215.0	216.5	217.9	219.4	220.8
75°	178.5	183.4	188.2	191.5	193.2	195.0	196.7	198.5
77.5°	156.4	161.4	166.5	169.8	171.2	172.5	173.8	175.2
80°	141.9	146.9	151.9	155.1	156.5	158.0	159.5	160.9
82.5°	128.7	133.6	138.6	141.9	143.4	144.8	146.3	147.7
85°	110.2	115.2	120.2	123.4	124.8	126.3	127.8	129.2
87.5°	99.7	104.9	110.0	113.4	115.0	116.6	118.1	119.7
90°	113.0	119.0	124.9	128.9	130.9	132.9	134.8	136.7
92.5°	111.5	118.0	124.4	128.5	130.1	131.7	133.4	135.0
95°	112.2	118.4	124.7	128.5	130.0	131.5	132.9	134.4
97.5°	108.8	115.2	121.6	125.5	127.3	129.0	130.7	132.4
100°	106.3	112.5	118.8	122.8	124.5	126.1	127.9	129.6
102.5°	123.1	121.1	119.2	119.2	121.1	123.0	124.8	126.8
105°	213.0	173.6	134.1	115.4	117.2	119.0	120.8	122.6
107.5°	433.3	405.2	377.2	347.4	315.9	284.4	252.9	221.4
110°	532.9	528.6	524.3	505.1	471.1	437.1	403.1	369.1



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CATALOG NUMBER: S123DIW-S560D1320U935-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	601.8	605.6	609.5	608.4	602.2	596.1	590.0	583.8
115°	682.3	688.4	694.3	698.4	700.6	702.7	704.9	707.1
117.5°	754.7	760.1	765.6	769.0	770.3	771.6	773.0	774.3
120°	802.3	807.6	813.0	816.1	817.2	818.2	819.2	820.3
122.5°	848.7	853.3	858.0	860.9	862.1	863.3	864.5	865.8
125°	914.0	917.5	921.1	923.6	925.1	926.6	928.2	929.7
127.5°	979.3	983.0	986.7	988.8	989.3	989.8	990.2	990.8
130°	1018.5	1022.2	1026.0	1028.0	1028.5	1028.8	1029.2	1029.6
132.5°	1055.4	1059.0	1062.7	1064.7	1065.0	1065.3	1065.7	1065.9
135°	1111.8	1115.2	1118.5	1120.2	1120.2	1120.2	1120.2	1120.2
137.5°	1161.8	1165.3	1168.8	1170.6	1170.9	1171.1	1171.4	1171.6
140°	1193.6	1196.8	1200.0	1201.7	1202.0	1202.1	1202.4	1202.6
142.5°	1223.4	1226.2	1228.9	1230.3	1230.4	1230.4	1230.5	1230.5
145°	1266.5	1268.2	1269.9	1271.0	1271.6	1272.1	1272.7	1273.3
147.5°	1305.4	1306.2	1307.1	1307.2	1306.6	1306.0	1305.4	1304.8
150°	1329.5	1330.0	1330.5	1330.5	1330.1	1329.6	1329.2	1328.7
152.5°	1351.5	1352.5	1353.3	1353.2	1352.1	1351.1	1350.0	1348.9
155°	1381.9	1383.1	1384.4	1384.2	1382.8	1381.3	1379.8	1378.4
157.5°	1408.3	1409.8	1411.3	1411.0	1409.1	1407.2	1405.2	1403.3
160°	1423.3	1424.9	1426.3	1426.2	1424.4	1422.7	1421.0	1419.3
162.5°	1437.0	1438.7	1440.4	1440.5	1438.9	1437.4	1435.9	1434.3
165°	1455.3	1457.3	1459.3	1459.4	1457.7	1456.0	1454.2	1452.5
167.5°	1469.6	1471.4	1473.4	1473.4	1471.4	1469.6	1467.6	1465.6
170°	1477.5	1479.5	1481.4	1481.4	1479.5	1477.5	1475.5	1473.5
172.5°	1482.8	1484.8	1486.8	1486.6	1484.5	1482.3	1480.1	1478.0
175°	1489.2	1490.9	1492.6	1492.5	1490.6	1488.6	1486.6	1484.6
177.5°	1491.5	1493.1	1494.7	1494.5	1492.5	1490.6	1488.6	1486.6
180°	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1	1490.1

(END OF REPORT)