

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: P331590-927

Luminaire Tested: **S122DIW-S1005D435U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331590-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S1005D435U927-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 435 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4403.2 lumens
Efficiency: N/A
Efficacy: 84.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Direct

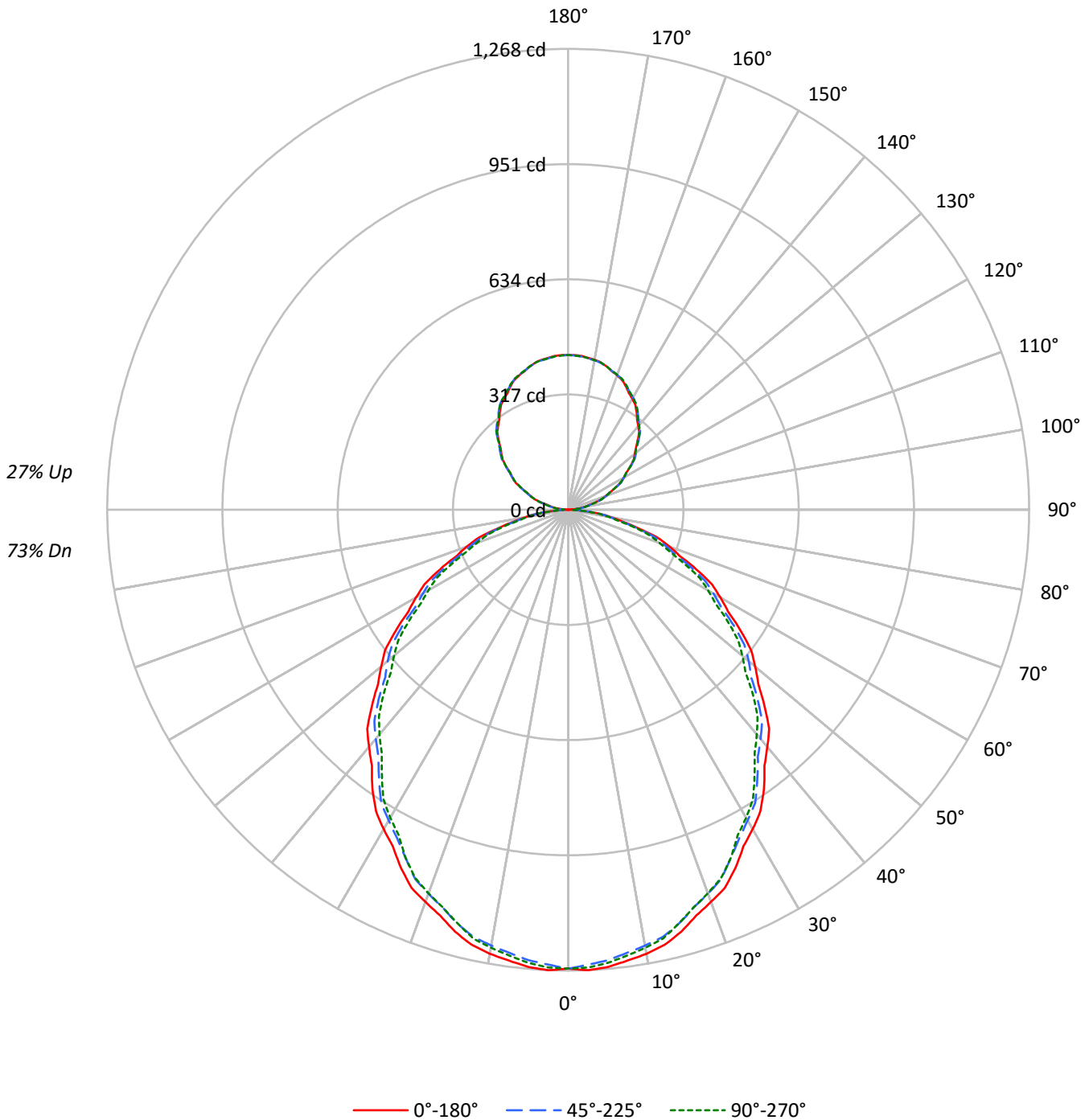
Input Watts (W): 52.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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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	113	113	113	113	107	107	107	107	96	96	96	86	86	86	77	77	77	73
1	103	98	94	91	98	94	90	87	84	82	79	76	74	72	68	67	65	61
2	94	86	80	74	89	82	76	71	74	70	66	67	63	60	60	57	55	52
3	86	76	68	62	81	72	65	60	65	60	55	59	55	51	53	50	47	44
4	78	67	59	53	74	64	57	51	58	52	47	53	48	44	48	44	40	37
5	72	60	51	45	68	57	50	44	52	46	41	47	42	38	43	39	35	33
6	67	54	45	39	63	52	44	38	47	41	36	43	38	33	39	35	31	29
7	62	49	41	35	58	47	39	34	43	36	32	39	34	30	36	31	28	25
8	57	45	36	31	54	43	35	30	39	33	28	36	30	27	33	28	25	23
9	53	41	33	28	51	39	32	27	36	30	25	33	28	24	30	26	22	20
10	50	38	30	25	48	36	29	24	33	27	23	31	25	22	28	24	20	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	20386	20386	20386
5°	20464	20169	20285
10°	20341	19964	20064
15°	20090	19704	19686
20°	19734	19316	19295
25°	19379	18838	18838
30°	18921	18401	18243
35°	18496	17875	17611
40°	17962	17351	17015
45°	17438	16826	16411
50°	16865	16284	15707
55°	16268	15651	15071
60°	15603	14899	14347
65°	14888	14147	13498
70°	13983	13237	12609
75°	12726	12190	11890
80°	11288	10953	10386
85°	9207	8781	7873



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.7	2.7
10°-20°	334.1	7.6
20°-30°	491.0	11.2
30°-40°	570.4	13.0
40°-50°	569.8	12.9
50°-60°	496.9	11.3
60°-70°	367.4	8.3
70°-80°	208.1	4.7
80°-90°	57.7	1.3
90°-100°	27.0	0.6
100°-110°	83.7	1.9
110°-120°	143.1	3.2
120°-130°	188.1	4.3
130°-140°	211.2	4.8
140°-150°	207.1	4.7
150°-160°	173.7	3.9
160°-170°	115.2	2.6
170°-180°	40.3	0.9
0°-30°	943.8	21.4
0°-40°	1514.2	34.4
0°-60°	2580.8	58.6
0°-90°	3214.0	73.0
90°-120°	253.7	5.8
90°-150°	860.1	19.5
90°-180°	1189.0	27.0
0°-180°	4403.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1263	1263	1263	1263	1263	
5°	1263	1257	1244	1253	1252	120
15°	1202	1194	1179	1183	1178	338
25°	1088	1078	1057	1060	1057	500
35°	938	926	907	900	894	586
45°	764	755	737	724	719	589
55°	578	570	556	542	535	517
65°	390	382	370	360	353	385
75°	204	201	195	189	191	218
85°	50	49	47	44	42	57
90°	0	5	13	12	12	3
95°	19	22	23	23	22	21
105°	77	78	79	80	80	82
115°	144	146	145	145	144	142
125°	209	212	211	210	210	187
135°	270	274	275	274	274	209
145°	328	331	333	333	332	205
155°	375	376	377	379	378	173
165°	408	408	408	410	408	115
175°	425	424	423	425	423	40
180°	425	425	425	425	425	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6
2.5°	1268.4	1267.3	1266.3	1265.2	1264.1	1262.4	1260.0	1257.7	1255.3	1252.9	1255.1
5°	1262.6	1261.6	1260.4	1259.3	1258.3	1256.2	1253.3	1250.3	1247.4	1244.4	1246.6
7.5°	1251.4	1249.7	1248.1	1246.4	1244.8	1242.4	1239.4	1236.4	1233.3	1230.3	1232.5
10°	1240.7	1238.9	1237.0	1235.1	1233.2	1230.7	1227.4	1224.2	1220.9	1217.7	1219.9
12.5°	1226.2	1224.5	1222.8	1221.1	1219.5	1217.0	1213.8	1210.5	1207.4	1204.1	1205.6
15°	1201.9	1200.3	1198.7	1197.1	1195.4	1192.9	1189.4	1185.8	1182.3	1178.8	1180.0
17.5°	1170.8	1169.2	1167.6	1165.9	1164.3	1161.7	1158.2	1154.6	1151.0	1147.6	1148.7
20°	1148.5	1146.8	1145.3	1143.6	1142.0	1139.3	1135.5	1131.8	1128.0	1124.2	1125.0
22.5°	1126.2	1123.9	1121.7	1119.4	1117.1	1114.2	1110.6	1107.1	1103.5	1099.9	1100.1
25°	1087.8	1085.6	1083.5	1081.3	1079.2	1075.8	1071.2	1066.6	1062.0	1057.4	1058.0
27.5°	1044.1	1042.1	1040.2	1038.2	1036.3	1033.6	1029.9	1026.3	1022.7	1019.1	1018.3
30°	1014.9	1012.8	1010.6	1008.4	1006.3	1003.2	999.2	995.1	991.1	987.0	986.2
32.5°	983.9	982.1	980.4	978.7	976.9	974.0	969.7	965.4	961.2	956.9	955.5
35°	938.4	935.7	933.0	930.3	927.6	924.2	919.8	915.5	911.2	906.9	905.3
37.5°	887.2	884.9	882.5	880.1	877.7	874.4	870.1	865.8	861.4	857.1	855.1
40°	852.2	850.1	848.0	845.8	843.6	840.4	836.1	831.8	827.4	823.2	820.7
42.5°	818.2	816.1	814.0	811.8	809.6	806.4	802.1	797.7	793.4	789.1	786.5
45°	763.7	761.8	759.9	758.0	756.1	753.1	749.1	745.0	741.0	736.9	734.0
47.5°	709.2	707.5	705.7	703.9	702.1	699.1	694.9	690.7	686.5	682.3	679.1
50°	671.4	670.0	668.7	667.3	666.0	663.4	659.7	655.8	652.0	648.3	644.5
52.5°	634.5	632.7	630.9	629.2	627.3	624.6	621.1	617.5	614.0	610.5	607.3
55°	577.9	576.2	574.6	573.1	571.4	568.9	565.8	562.5	559.3	556.0	552.8
57.5°	521.1	519.8	518.5	517.2	515.9	513.5	509.9	506.4	502.8	499.2	496.1
60°	483.2	482.1	481.0	480.0	478.9	476.4	472.7	468.9	465.1	461.4	458.4
62.5°	446.3	444.6	442.8	441.1	439.3	437.0	434.1	431.3	428.3	425.4	422.6
65°	389.7	388.1	386.5	384.8	383.3	381.0	378.3	375.7	373.0	370.3	367.9
67.5°	332.2	330.9	329.5	328.3	327.0	325.1	322.7	320.3	317.8	315.4	313.5
70°	296.2	295.2	294.1	293.0	291.9	290.2	287.7	285.3	282.9	280.4	278.5
72.5°	259.3	258.3	257.1	256.1	255.0	253.7	252.2	250.6	249.0	247.4	245.5
75°	204.0	203.4	202.9	202.3	201.8	200.8	199.5	198.1	196.8	195.4	193.8
77.5°	154.4	153.5	152.6	151.7	150.8	150.0	149.5	148.9	148.4	147.9	147.0
80°	121.4	121.1	120.9	120.6	120.3	119.9	119.4	118.8	118.3	117.8	116.9
82.5°	90.3	90.3	90.2	90.2	90.1	89.9	89.6	89.3	89.0	88.6	87.6
85°	49.7	49.5	49.3	49.0	48.7	48.4	48.2	47.8	47.6	47.4	46.5
87.5°	17.6	17.3	17.1	16.8	16.6	16.4	16.3	16.2	16.2	16.1	15.4
90°	0.4	1.3	2.3	3.2	4.2	5.5	7.3	9.0	10.8	12.6	12.4
92.5°	6.4	7.1	7.8	8.5	9.2	9.7	10.1	10.6	11.0	11.4	11.4
95°	18.7	19.5	20.3	21.1	21.9	22.3	22.5	22.7	22.8	23.0	23.0
97.5°	34.1	34.8	35.5	36.2	36.9	37.4	37.7	38.0	38.3	38.6	38.6
100°	45.6	46.2	46.8	47.5	48.2	48.6	48.8	49.0	49.3	49.5	49.5
102.5°	57.7	58.1	58.6	59.2	59.7	60.1	60.4	60.7	61.0	61.3	61.4
105°	77.2	77.4	77.6	77.9	78.1	78.3	78.5	78.7	78.8	79.0	79.1
107.5°	96.8	97.2	97.5	97.9	98.2	98.4	98.4	98.4	98.4	98.4	98.5
110°	109.5	110.0	110.4	110.9	111.4	111.6	111.6	111.6	111.6	111.6	111.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	123.3	123.7	124.2	124.7	125.2	125.4	125.3	125.2	125.2	125.1	124.9
115°	143.5	144.0	144.5	145.0	145.4	145.6	145.4	145.3	145.1	145.0	144.9
117.5°	163.8	164.5	165.1	165.7	166.4	166.4	166.0	165.6	165.1	164.7	164.5
120°	177.3	177.9	178.6	179.2	179.8	179.8	179.2	178.6	177.9	177.3	177.3
122.5°	189.6	190.4	191.2	191.9	192.7	192.9	192.4	191.9	191.5	191.1	190.9
125°	208.9	209.6	210.3	211.0	211.8	212.0	211.8	211.5	211.3	211.0	210.8
127.5°	227.6	228.5	229.4	230.4	231.2	231.6	231.3	231.0	230.7	230.4	230.1
130°	239.4	240.4	241.5	242.5	243.5	244.0	243.8	243.7	243.5	243.4	243.2
132.5°	252.6	253.4	254.3	255.2	256.0	256.4	256.4	256.5	256.5	256.5	256.2
135°	270.3	271.2	272.0	272.9	273.8	274.3	274.4	274.6	274.7	274.9	274.8
137.5°	288.8	289.5	290.3	291.0	291.7	292.2	292.4	292.6	292.8	293.0	292.9
140°	300.1	300.8	301.5	302.2	302.9	303.5	303.9	304.3	304.7	305.1	305.1
142.5°	311.6	312.3	313.0	313.7	314.4	314.9	315.1	315.4	315.7	316.0	316.1
145°	328.0	328.6	329.2	329.7	330.3	330.8	331.3	331.8	332.2	332.7	332.8
147.5°	342.8	343.4	344.1	344.8	345.5	345.9	346.3	346.6	346.9	347.2	347.4
150°	352.8	353.3	353.8	354.3	354.7	355.1	355.5	355.8	356.1	356.4	356.6
152.5°	361.7	362.2	362.7	363.1	363.6	364.1	364.4	364.8	365.2	365.6	365.9
155°	375.0	375.3	375.5	375.8	376.0	376.3	376.5	376.8	377.0	377.2	377.6
157.5°	386.5	386.7	386.8	387.0	387.1	387.2	387.4	387.5	387.7	387.9	388.4
160°	393.4	393.6	393.7	393.9	394.0	394.1	394.2	394.3	394.3	394.4	394.9
162.5°	399.7	399.7	399.7	399.7	399.8	399.9	400.0	400.1	400.1	400.2	400.7
165°	408.1	408.0	407.9	407.8	407.7	407.7	407.7	407.7	407.7	407.7	408.3
167.5°	415.1	414.9	414.6	414.4	414.2	414.0	414.0	414.0	414.0	414.0	414.5
170°	418.8	418.6	418.4	418.1	417.9	417.7	417.6	417.6	417.5	417.4	418.0
172.5°	421.4	421.2	421.0	420.7	420.5	420.3	420.3	420.2	420.1	420.0	420.6
175°	424.6	424.4	424.1	423.9	423.7	423.4	423.3	423.1	422.9	422.8	423.3
177.5°	425.9	425.7	425.5	425.3	425.1	424.9	424.8	424.7	424.5	424.5	424.8
180°	425.3	425.3	425.3	425.3	425.3	425.3	425.3	425.3	425.3	425.3	425.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6	1262.6
2.5°	1257.2	1259.3	1261.6	1262.4	1261.9	1261.6	1261.1	1260.7
5°	1248.7	1250.9	1253.0	1253.9	1253.3	1252.8	1252.2	1251.6
7.5°	1234.6	1236.8	1239.0	1239.8	1239.1	1238.6	1237.9	1237.4
10°	1222.0	1224.2	1226.3	1227.0	1226.2	1225.3	1224.6	1223.8
12.5°	1207.1	1208.6	1210.1	1210.6	1210.0	1209.4	1208.8	1208.2
15°	1181.0	1182.1	1183.1	1183.0	1181.7	1180.4	1179.0	1177.7
17.5°	1150.0	1151.3	1152.5	1152.5	1151.1	1149.9	1148.6	1147.2
20°	1125.8	1126.6	1127.4	1127.3	1126.2	1125.1	1124.1	1123.0
22.5°	1100.3	1100.4	1100.6	1100.3	1099.7	1099.1	1098.4	1097.7
25°	1058.5	1059.1	1059.6	1059.6	1059.1	1058.5	1058.0	1057.4
27.5°	1017.5	1016.6	1015.8	1014.8	1013.5	1012.2	1010.9	1009.6
30°	985.4	984.6	983.8	982.9	981.8	980.6	979.6	978.5
32.5°	954.0	952.5	951.1	949.8	948.7	947.7	946.6	945.5
35°	903.6	902.1	900.4	899.0	897.6	896.3	894.8	893.5
37.5°	853.1	851.1	849.1	847.5	846.2	844.9	843.6	842.3
40°	818.2	815.9	813.4	811.7	810.6	809.5	808.4	807.3
42.5°	783.9	781.2	778.6	776.5	775.0	773.5	772.0	770.4
45°	731.0	728.0	725.1	723.0	721.9	720.9	719.8	718.7
47.5°	676.0	672.9	669.8	667.4	665.8	664.3	662.7	661.2
50°	640.7	637.0	633.2	630.7	629.3	628.0	626.6	625.3
52.5°	604.2	601.0	597.9	595.5	593.7	591.9	590.1	588.4
55°	549.5	546.3	543.1	540.8	539.5	538.1	536.8	535.4
57.5°	492.8	489.6	486.5	484.3	483.4	482.4	481.3	480.3
60°	455.4	452.4	449.5	447.6	446.8	446.0	445.1	444.3
62.5°	419.9	417.2	414.4	412.5	411.5	410.4	409.4	408.4
65°	365.4	363.0	360.6	358.7	357.4	356.0	354.7	353.3
67.5°	311.6	309.7	307.8	306.3	305.3	304.2	303.2	302.1
70°	276.6	274.8	272.9	271.4	270.3	269.3	268.2	267.1
72.5°	243.7	241.8	239.9	238.5	237.7	236.8	235.9	235.0
75°	192.3	190.6	189.0	188.5	189.0	189.5	190.0	190.6
77.5°	146.2	145.4	144.7	143.9	143.1	142.4	141.6	140.9
80°	116.1	115.3	114.5	113.8	113.3	112.8	112.3	111.7
82.5°	86.6	85.6	84.5	84.0	83.8	83.7	83.7	83.5
85°	45.7	44.9	44.1	43.6	43.3	43.0	42.8	42.5
87.5°	14.7	14.1	13.4	13.0	12.8	12.5	12.4	12.1
90°	12.3	12.1	12.0	11.9	12.0	12.0	12.1	12.2
92.5°	11.5	11.5	11.6	11.6	11.6	11.6	11.6	11.6
95°	23.0	23.0	23.0	22.9	22.7	22.6	22.4	22.3
97.5°	38.6	38.6	38.6	38.6	38.6	38.6	38.6	38.6
100°	49.5	49.5	49.5	49.5	49.4	49.4	49.3	49.2
102.5°	61.4	61.5	61.6	61.6	61.5	61.4	61.3	61.2
105°	79.3	79.5	79.6	79.7	79.7	79.7	79.7	79.7
107.5°	98.5	98.6	98.7	98.5	98.2	97.8	97.4	97.0
110°	111.6	111.6	111.6	111.5	111.2	111.0	110.7	110.5



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CATALOG NUMBER: S122DIW-S1005D435U927-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	124.8	124.5	124.4	124.1	124.0	123.8	123.7	123.5
115°	144.8	144.7	144.7	144.5	144.3	144.0	143.8	143.5
117.5°	164.3	164.1	163.9	163.7	163.4	163.2	163.0	162.7
120°	177.3	177.3	177.3	177.2	177.0	176.7	176.5	176.3
122.5°	190.7	190.5	190.3	190.1	190.0	189.8	189.6	189.4
125°	210.6	210.3	210.1	209.9	209.8	209.8	209.7	209.6
127.5°	229.8	229.6	229.3	229.0	228.7	228.5	228.2	228.0
130°	243.0	242.9	242.7	242.5	242.2	241.9	241.5	241.2
132.5°	255.9	255.5	255.2	254.8	254.6	254.3	254.1	253.8
135°	274.7	274.6	274.6	274.4	274.2	273.9	273.7	273.5
137.5°	292.9	292.8	292.8	292.6	292.2	291.9	291.6	291.3
140°	305.1	305.1	305.1	304.9	304.6	304.3	304.0	303.6
142.5°	316.1	316.2	316.2	316.1	315.8	315.4	315.1	314.8
145°	332.9	333.0	333.0	332.9	332.6	332.2	331.9	331.6
147.5°	347.5	347.8	347.9	347.8	347.5	347.2	346.9	346.7
150°	356.9	357.1	357.4	357.4	357.1	356.9	356.6	356.4
152.5°	366.1	366.5	366.8	366.8	366.5	366.1	365.9	365.6
155°	378.0	378.4	378.8	378.9	378.7	378.4	378.2	378.0
157.5°	388.9	389.4	390.0	390.1	389.7	389.3	389.0	388.6
160°	395.4	395.9	396.3	396.4	396.1	395.8	395.5	395.1
162.5°	401.2	401.8	402.3	402.4	402.0	401.6	401.2	400.9
165°	408.8	409.4	410.0	410.0	409.6	409.2	408.8	408.4
167.5°	415.1	415.7	416.2	416.3	415.8	415.4	415.0	414.6
170°	418.5	419.1	419.6	419.7	419.2	418.7	418.3	417.8
172.5°	421.1	421.7	422.2	422.2	421.8	421.3	420.8	420.3
175°	423.9	424.5	425.0	425.1	424.6	424.1	423.7	423.2
177.5°	425.2	425.6	426.0	426.0	425.6	425.2	424.8	424.5
180°	425.3	425.3	425.3	425.3	425.3	425.3	425.3	425.3

(END OF REPORT)