

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: P331560-830

Luminaire Tested: **S122DIW-S865D435U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331560-830
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-S865D435U830-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 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: 4726.2 lumens
Efficiency: N/A
Efficacy: 102.3 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

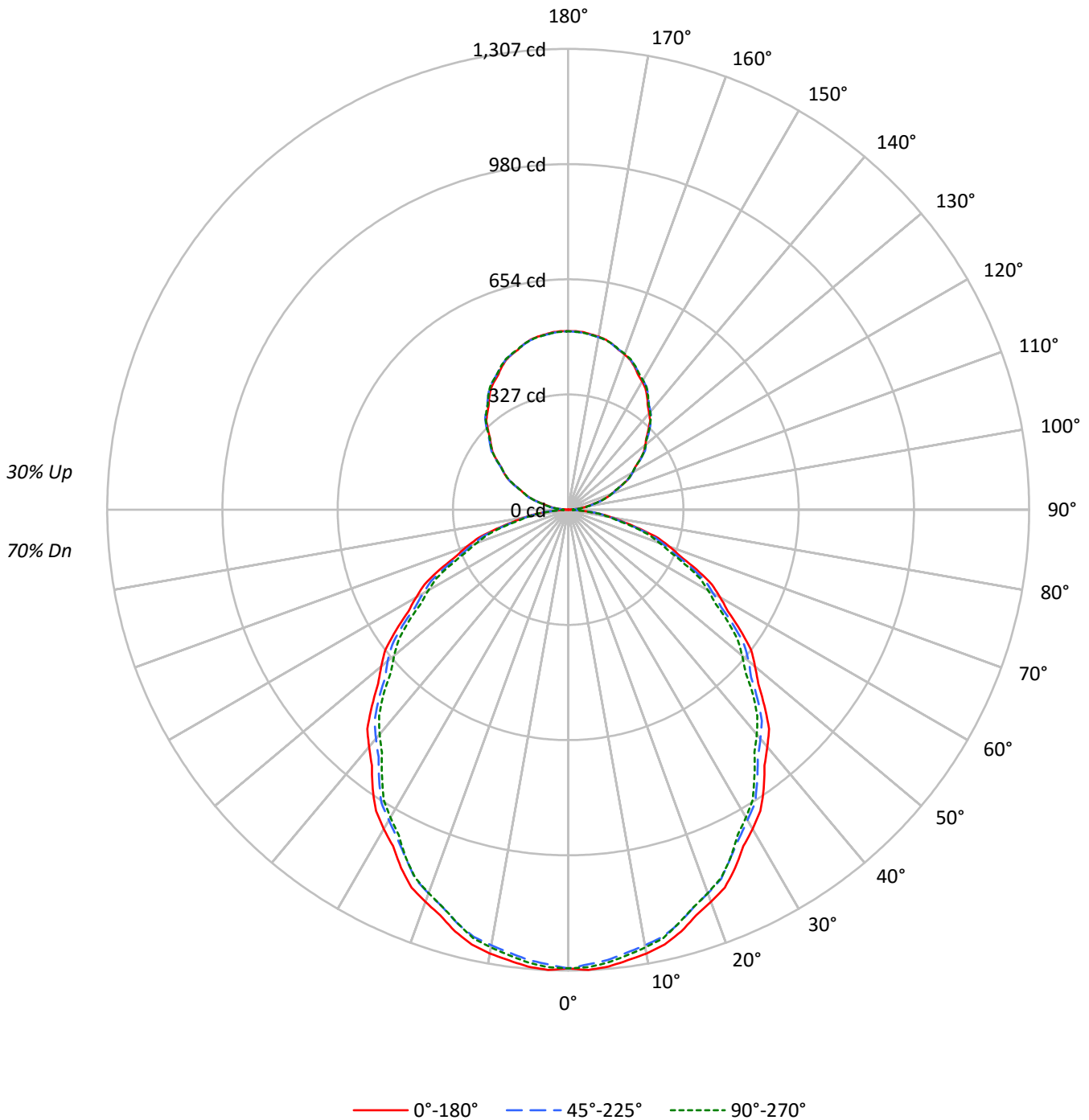
Input Watts (W): 46.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	112	112	112	112	106	106	106	106	94	94	94	84	84	84	75	75	75	70
1	102	98	94	90	97	93	89	86	83	80	78	74	72	70	66	64	63	59
2	93	85	79	74	88	81	75	71	73	68	64	65	62	59	58	55	53	49
3	85	75	68	61	80	71	65	59	64	59	54	58	53	50	51	48	45	42
4	78	67	58	52	73	63	56	50	57	51	46	51	47	43	46	42	39	36
5	72	60	51	45	67	57	49	43	51	45	40	46	41	37	41	37	34	31
6	66	54	45	39	62	51	43	38	46	40	35	42	37	33	38	33	30	27
7	61	48	40	34	58	46	39	33	42	36	31	38	33	29	34	30	27	24
8	57	44	36	31	54	42	35	30	38	32	28	35	30	26	32	27	24	22
9	53	40	33	27	50	39	31	27	35	29	25	32	27	23	29	25	22	20
10	50	37	30	25	47	36	29	24	33	27	23	30	25	21	27	23	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	21001	21001	21001
5°	21081	20778	20900
10°	20956	20566	20669
15°	20697	20301	20277
20°	20330	19900	19878
25°	19963	19408	19408
30°	19494	18957	18793
35°	19056	18413	18143
40°	18506	17873	17530
45°	17961	17335	16908
50°	17372	16777	16179
55°	16757	16124	15527
60°	16075	15345	14783
65°	15339	14571	13903
70°	14408	13638	12987
75°	13107	12558	12246
80°	11632	11278	10702
85°	9503	9040	8096



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.3	2.6
10°-20°	344.2	7.3
20°-30°	505.9	10.7
30°-40°	587.6	12.4
40°-50°	587.0	12.4
50°-60°	511.9	10.8
60°-70°	378.5	8.0
70°-80°	214.4	4.5
80°-90°	59.7	1.3
90°-100°	32.1	0.7
100°-110°	99.6	2.1
110°-120°	170.2	3.6
120°-130°	223.9	4.7
130°-140°	251.3	5.3
140°-150°	246.4	5.2
150°-160°	206.6	4.4
160°-170°	137.1	2.9
170°-180°	47.9	1.0
0°-30°	972.3	20.6
0°-40°	1559.9	33.0
0°-60°	2658.7	56.3
0°-90°	3311.3	70.1
90°-120°	301.9	6.4
90°-150°	1023.3	21.7
90°-180°	1415.0	29.9
0°-180°	4726.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1301	1301	1301	1301	1301	
5°	1301	1295	1282	1291	1290	123
15°	1238	1230	1214	1219	1213	348
25°	1121	1110	1089	1092	1089	515
35°	967	954	934	927	920	603
45°	787	777	759	746	740	607
55°	595	587	573	558	552	532
65°	402	394	381	370	364	397
75°	210	207	201	194	196	224
85°	51	50	49	45	44	59
90°	0	6	15	14	14	4
95°	22	26	27	27	26	25
105°	92	93	94	95	95	97
115°	171	173	172	172	171	169
125°	248	252	251	250	249	222
135°	322	326	327	327	325	248
145°	390	393	396	396	394	244
155°	446	448	449	451	450	205
165°	486	485	485	488	486	137
175°	505	504	503	506	504	48
180°	506	506	506	506	506	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7
2.5°	1306.7	1305.6	1304.5	1303.4	1302.3	1300.5	1298.1	1295.6	1293.2	1290.7	1293.0
5°	1300.7	1299.6	1298.5	1297.4	1296.3	1294.2	1291.2	1288.1	1285.1	1282.0	1284.2
7.5°	1289.2	1287.5	1285.8	1284.0	1282.3	1279.9	1276.8	1273.7	1270.5	1267.4	1269.7
10°	1278.2	1276.3	1274.3	1272.3	1270.5	1267.8	1264.4	1261.1	1257.8	1254.4	1256.7
12.5°	1263.2	1261.5	1259.8	1258.0	1256.3	1253.8	1250.5	1247.1	1243.8	1240.5	1242.0
15°	1238.2	1236.5	1234.8	1233.2	1231.5	1228.9	1225.3	1221.6	1218.0	1214.5	1215.5
17.5°	1206.2	1204.5	1202.9	1201.2	1199.5	1196.8	1193.2	1189.5	1185.8	1182.1	1183.5
20°	1183.2	1181.5	1179.9	1178.2	1176.5	1173.7	1169.8	1165.9	1162.1	1158.2	1159.0
22.5°	1160.2	1157.8	1155.5	1153.1	1150.8	1147.8	1144.2	1140.5	1136.8	1133.1	1133.3
25°	1120.6	1118.4	1116.2	1114.0	1111.7	1108.2	1103.5	1098.8	1094.1	1089.4	1090.0
27.5°	1075.6	1073.7	1071.6	1069.6	1067.6	1064.7	1061.0	1057.2	1053.6	1049.8	1049.0
30°	1045.6	1043.4	1041.1	1039.0	1036.7	1033.5	1029.4	1025.2	1021.0	1016.8	1016.0
32.5°	1013.6	1011.8	1010.0	1008.2	1006.4	1003.3	999.0	994.6	990.2	985.8	984.3
35°	966.8	964.0	961.2	958.5	955.6	952.1	947.6	943.2	938.7	934.2	932.6
37.5°	914.0	911.5	909.1	906.6	904.3	900.8	896.4	891.9	887.4	883.0	880.9
40°	878.0	875.8	873.5	871.3	869.1	865.7	861.3	856.9	852.4	848.0	845.5
42.5°	843.0	840.7	838.5	836.3	834.1	830.8	826.3	821.9	817.4	812.9	810.2
45°	786.6	784.8	782.8	780.9	778.9	775.8	771.7	767.5	763.4	759.2	756.1
47.5°	730.7	728.9	727.0	725.2	723.3	720.2	715.9	711.5	707.2	702.9	699.6
50°	691.6	690.2	688.9	687.5	686.1	683.4	679.6	675.6	671.8	667.9	664.0
52.5°	653.7	651.8	650.0	648.1	646.3	643.6	639.9	636.2	632.5	628.9	625.7
55°	595.3	593.7	592.0	590.3	588.6	586.2	582.9	579.5	576.2	572.8	569.5
57.5°	536.8	535.5	534.1	532.8	531.5	529.0	525.3	521.6	517.9	514.3	511.0
60°	497.8	496.6	495.6	494.5	493.3	490.9	486.9	483.1	479.2	475.2	472.2
62.5°	459.8	458.0	456.2	454.4	452.6	450.3	447.2	444.2	441.2	438.3	435.5
65°	401.5	399.8	398.1	396.4	394.8	392.6	389.8	387.0	384.3	381.4	379.0
67.5°	342.2	340.8	339.5	338.2	336.9	335.0	332.4	329.9	327.4	324.9	323.0
70°	305.2	304.1	302.9	301.8	300.8	298.9	296.4	293.9	291.4	288.9	287.0
72.5°	267.1	266.1	264.9	263.8	262.7	261.4	259.8	258.2	256.5	254.9	253.0
75°	210.1	209.5	209.0	208.5	207.9	206.9	205.6	204.2	202.7	201.3	199.7
77.5°	159.1	158.2	157.2	156.3	155.3	154.6	154.0	153.4	152.9	152.3	151.5
80°	125.1	124.8	124.5	124.2	123.9	123.6	123.0	122.4	121.9	121.3	120.5
82.5°	93.0	93.0	92.9	92.8	92.8	92.7	92.3	92.0	91.6	91.3	90.2
85°	51.3	51.0	50.7	50.4	50.1	49.9	49.6	49.3	49.0	48.8	48.0
87.5°	18.1	17.9	17.6	17.4	17.2	17.1	17.1	17.1	17.1	17.0	16.3
90°	0.5	1.6	2.7	3.9	5.0	6.6	8.7	10.7	12.8	15.0	14.8
92.5°	7.6	8.5	9.2	10.1	10.9	11.6	12.1	12.6	13.1	13.6	13.6
95°	22.2	23.2	24.1	25.1	26.0	26.6	26.8	27.0	27.1	27.3	27.3
97.5°	40.5	41.4	42.2	43.1	43.9	44.5	44.9	45.2	45.6	45.9	45.9
100°	54.2	55.0	55.7	56.6	57.3	57.8	58.1	58.3	58.6	58.9	58.9
102.5°	68.6	69.2	69.7	70.4	71.0	71.5	71.8	72.2	72.6	73.0	73.0
105°	91.8	92.1	92.4	92.7	92.9	93.2	93.4	93.6	93.8	94.0	94.2
107.5°	115.2	115.6	116.0	116.5	116.9	117.1	117.1	117.1	117.1	117.1	117.2
110°	130.3	130.8	131.4	132.0	132.5	132.8	132.8	132.8	132.8	132.8	132.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	146.7	147.2	147.8	148.4	148.9	149.2	149.1	149.0	148.9	148.8	148.6
115°	170.8	171.4	171.9	172.5	173.1	173.2	173.1	172.9	172.7	172.5	172.4
117.5°	194.9	195.7	196.4	197.2	197.9	198.0	197.6	197.0	196.4	196.0	195.7
120°	210.9	211.7	212.4	213.2	214.0	214.0	213.2	212.4	211.7	210.9	210.9
122.5°	225.6	226.6	227.4	228.4	229.3	229.5	228.9	228.4	227.9	227.3	227.2
125°	248.5	249.4	250.2	251.1	251.9	252.2	251.9	251.7	251.4	251.1	250.8
127.5°	270.8	271.9	273.0	274.1	275.1	275.5	275.2	274.8	274.5	274.2	273.8
130°	284.8	286.1	287.3	288.5	289.7	290.3	290.1	289.9	289.7	289.5	289.4
132.5°	300.6	301.5	302.6	303.6	304.5	305.1	305.1	305.2	305.2	305.2	304.8
135°	321.6	322.6	323.7	324.7	325.7	326.3	326.5	326.7	326.9	327.1	327.0
137.5°	343.7	344.5	345.3	346.2	347.0	347.6	347.9	348.2	348.4	348.6	348.6
140°	357.0	357.9	358.7	359.6	360.4	361.1	361.6	362.0	362.5	363.0	363.0
142.5°	370.7	371.6	372.4	373.2	374.1	374.7	374.9	375.3	375.6	376.0	376.1
145°	390.3	391.0	391.6	392.3	392.9	393.6	394.2	394.7	395.3	395.9	396.0
147.5°	407.8	408.6	409.4	410.2	411.0	411.6	412.0	412.4	412.7	413.1	413.3
150°	419.8	420.4	420.9	421.5	422.1	422.5	422.9	423.3	423.7	424.0	424.3
152.5°	430.4	430.9	431.5	432.1	432.6	433.2	433.6	434.0	434.5	435.0	435.4
155°	446.2	446.5	446.8	447.1	447.4	447.7	448.0	448.3	448.6	448.8	449.3
157.5°	459.9	460.1	460.2	460.4	460.6	460.7	460.9	461.1	461.3	461.5	462.1
160°	468.1	468.3	468.4	468.6	468.8	468.9	469.0	469.1	469.2	469.3	469.9
162.5°	475.5	475.6	475.6	475.6	475.7	475.8	475.9	476.0	476.1	476.2	476.7
165°	485.5	485.4	485.3	485.2	485.1	485.1	485.1	485.1	485.1	485.1	485.8
167.5°	493.9	493.6	493.3	493.0	492.8	492.6	492.6	492.6	492.6	492.6	493.2
170°	498.3	498.0	497.8	497.5	497.2	497.0	496.9	496.8	496.7	496.6	497.3
172.5°	501.4	501.1	500.9	500.6	500.3	500.1	500.0	499.9	499.8	499.7	500.4
175°	505.2	504.9	504.6	504.4	504.1	503.8	503.6	503.4	503.2	503.0	503.7
177.5°	506.7	506.5	506.2	506.1	505.8	505.6	505.5	505.3	505.1	505.0	505.5
180°	506.1	506.1	506.1	506.1	506.1	506.1	506.1	506.1	506.1	506.1	506.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7	1300.7
2.5°	1295.1	1297.4	1299.6	1300.5	1300.0	1299.6	1299.2	1298.7
5°	1286.4	1288.6	1290.9	1291.7	1291.2	1290.6	1290.1	1289.5
7.5°	1271.9	1274.1	1276.4	1277.1	1276.6	1275.9	1275.4	1274.7
10°	1258.9	1261.1	1263.4	1264.0	1263.2	1262.3	1261.5	1260.7
12.5°	1243.6	1245.1	1246.7	1247.2	1246.5	1245.9	1245.3	1244.7
15°	1216.6	1217.8	1218.9	1218.7	1217.4	1216.0	1214.6	1213.1
17.5°	1184.7	1186.0	1187.3	1187.2	1185.9	1184.6	1183.3	1181.9
20°	1159.8	1160.6	1161.5	1161.3	1160.3	1159.1	1158.0	1156.9
22.5°	1133.5	1133.6	1133.8	1133.6	1132.8	1132.2	1131.5	1130.9
25°	1090.5	1091.0	1091.6	1091.6	1091.0	1090.5	1090.0	1089.4
27.5°	1048.2	1047.4	1046.5	1045.5	1044.1	1042.7	1041.4	1040.1
30°	1015.1	1014.4	1013.5	1012.5	1011.4	1010.3	1009.2	1008.0
32.5°	982.8	981.3	979.8	978.5	977.4	976.3	975.2	974.0
35°	930.9	929.3	927.7	926.0	924.7	923.3	921.9	920.5
37.5°	878.9	876.8	874.8	873.1	871.8	870.4	869.1	867.7
40°	843.0	840.5	838.0	836.1	835.1	834.0	832.8	831.7
42.5°	807.5	804.7	802.1	799.9	798.3	796.8	795.2	793.7
45°	753.1	750.0	747.0	744.9	743.8	742.6	741.5	740.5
47.5°	696.4	693.2	690.0	687.6	686.0	684.4	682.8	681.2
50°	660.1	656.2	652.3	649.7	648.3	646.9	645.5	644.1
52.5°	622.4	619.2	616.0	613.4	611.6	609.7	607.9	606.1
55°	566.2	562.8	559.5	557.1	555.7	554.3	553.0	551.6
57.5°	507.7	504.4	501.1	499.0	497.9	496.9	495.9	494.7
60°	469.2	466.1	463.1	461.1	460.2	459.4	458.5	457.8
62.5°	432.5	429.7	426.9	425.0	423.9	422.8	421.8	420.8
65°	376.5	374.0	371.5	369.5	368.2	366.7	365.3	363.9
67.5°	321.0	319.1	317.2	315.7	314.5	313.4	312.3	311.1
70°	285.0	283.0	281.2	279.6	278.5	277.4	276.3	275.1
72.5°	251.0	249.0	247.1	245.7	244.8	243.9	243.0	242.1
75°	198.0	196.3	194.7	194.2	194.7	195.3	195.8	196.3
77.5°	150.7	149.9	149.0	148.2	147.4	146.7	145.9	145.1
80°	119.6	118.9	118.0	117.3	116.7	116.2	115.6	115.1
82.5°	89.2	88.1	87.1	86.5	86.3	86.2	86.1	86.1
85°	47.1	46.3	45.4	44.9	44.6	44.3	44.0	43.7
87.5°	15.6	14.9	14.1	13.8	13.5	13.3	13.1	12.9
90°	14.6	14.4	14.2	14.1	14.2	14.3	14.4	14.5
92.5°	13.7	13.7	13.8	13.8	13.8	13.8	13.9	13.9
95°	27.3	27.3	27.3	27.2	27.1	26.9	26.7	26.5
97.5°	45.9	45.9	45.9	45.9	45.9	45.9	45.9	45.9
100°	58.9	58.9	58.9	58.9	58.8	58.7	58.6	58.5
102.5°	73.0	73.1	73.2	73.2	73.1	73.0	73.0	72.9
105°	94.3	94.5	94.7	94.8	94.8	94.8	94.8	94.8
107.5°	117.3	117.3	117.4	117.3	116.8	116.3	115.9	115.5
110°	132.8	132.8	132.8	132.6	132.3	132.1	131.8	131.5



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CATALOG NUMBER: S122DIW-S865D435U830-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	148.5	148.2	148.0	147.7	147.5	147.3	147.1	146.9
115°	172.3	172.2	172.1	171.9	171.6	171.4	171.1	170.8
117.5°	195.5	195.2	195.0	194.7	194.4	194.2	193.9	193.6
120°	210.9	210.9	210.9	210.8	210.6	210.3	210.0	209.7
122.5°	226.9	226.7	226.4	226.2	226.0	225.8	225.6	225.4
125°	250.5	250.2	250.0	249.8	249.7	249.6	249.5	249.4
127.5°	273.4	273.1	272.8	272.5	272.1	271.8	271.5	271.3
130°	289.2	289.0	288.8	288.5	288.1	287.8	287.4	287.0
132.5°	304.4	304.0	303.6	303.2	302.9	302.6	302.3	302.0
135°	326.9	326.8	326.7	326.5	326.2	325.9	325.6	325.4
137.5°	348.5	348.4	348.4	348.1	347.7	347.3	346.9	346.6
140°	363.0	363.0	363.0	362.8	362.4	362.0	361.7	361.3
142.5°	376.1	376.2	376.3	376.1	375.7	375.3	374.9	374.6
145°	396.1	396.2	396.2	396.1	395.7	395.3	394.9	394.5
147.5°	413.5	413.8	414.0	413.9	413.5	413.1	412.7	412.5
150°	424.6	424.9	425.2	425.2	424.9	424.6	424.3	424.0
152.5°	435.6	436.0	436.4	436.4	436.0	435.6	435.4	435.0
155°	449.8	450.3	450.7	450.8	450.5	450.3	450.0	449.7
157.5°	462.7	463.4	464.0	464.1	463.6	463.2	462.8	462.3
160°	470.4	471.0	471.6	471.6	471.3	470.9	470.5	470.1
162.5°	477.4	478.1	478.7	478.8	478.3	477.9	477.4	477.0
165°	486.4	487.1	487.8	487.9	487.4	486.9	486.4	486.0
167.5°	493.9	494.6	495.2	495.3	494.7	494.3	493.8	493.3
170°	497.9	498.6	499.3	499.4	498.8	498.2	497.7	497.1
172.5°	501.1	501.7	502.4	502.4	501.8	501.2	500.7	500.1
175°	504.4	505.0	505.7	505.8	505.2	504.6	504.1	503.5
177.5°	506.0	506.3	506.8	506.8	506.3	506.0	505.5	505.0
180°	506.1	506.1	506.1	506.1	506.1	506.1	506.1	506.1

(END OF REPORT)