

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: P331565-940

Luminaire Tested: **S122DIW-S865D710U940-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331565-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S865D710U940-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 710 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5661.1 lumens
Efficiency: N/A
Efficacy: 105.6 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: General Diffuse

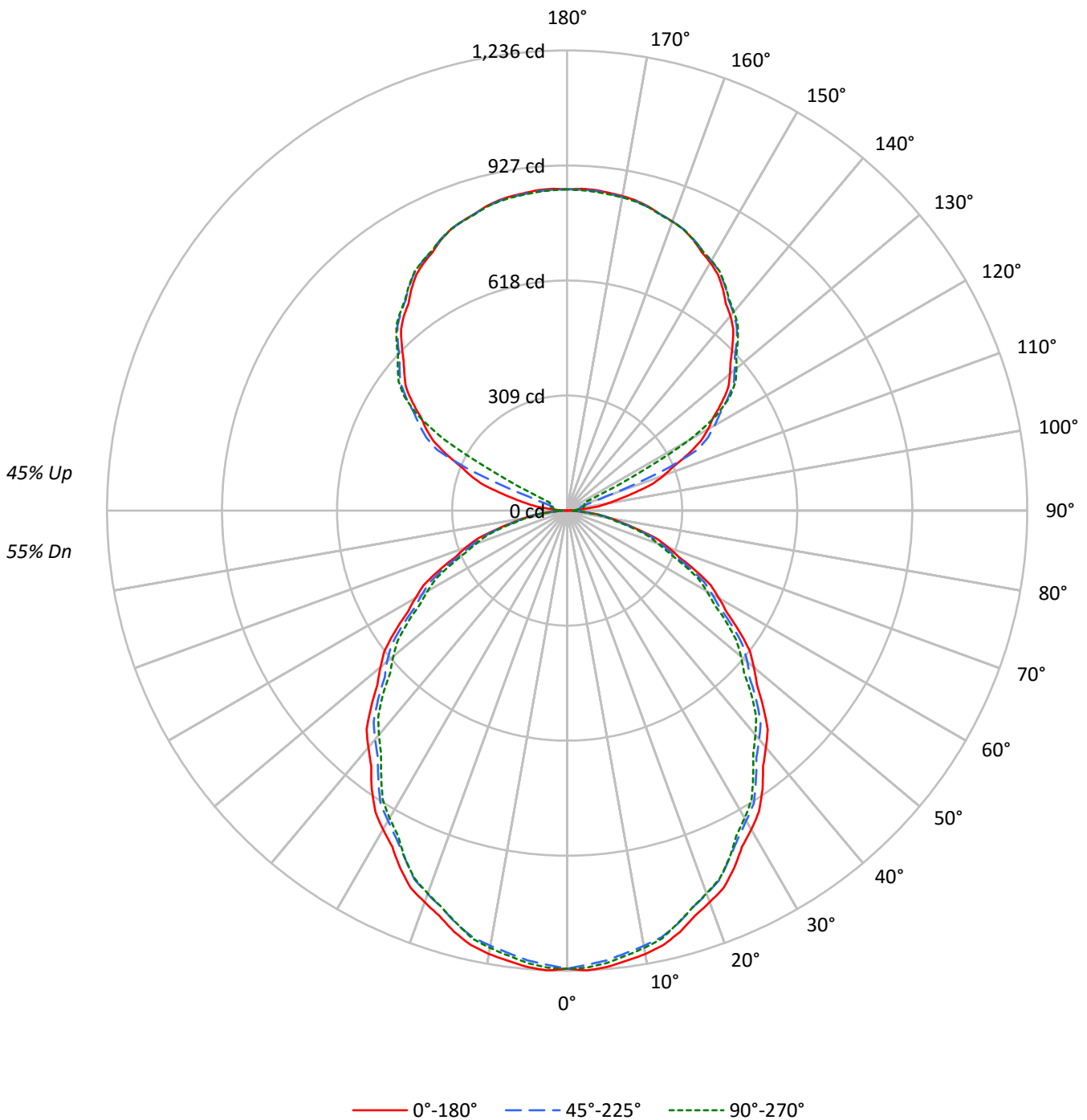
Input Watts (W): 53.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	101	101	101	101	86	86	86	73	73	73	61	61	61	55
1	99	95	91	87	92	88	85	82	76	73	71	64	63	61	54	53	52	47
2	90	83	76	71	83	77	72	67	66	62	59	57	54	51	47	45	43	39
3	82	73	65	59	76	68	61	56	59	54	49	50	46	43	42	39	37	33
4	75	64	56	50	70	60	53	47	52	47	42	45	40	37	38	34	32	28
5	69	57	49	43	64	54	46	41	47	41	36	40	36	32	34	31	28	25
6	64	51	43	37	59	48	41	36	42	36	32	36	32	28	31	27	24	22
7	59	47	38	33	55	44	36	31	38	32	28	33	28	25	28	25	22	19
8	55	42	34	29	51	40	33	28	35	29	25	30	26	22	26	22	20	17
9	51	39	31	26	47	36	29	25	32	26	22	28	23	20	24	20	18	16
10	48	35	28	23	44	33	27	22	29	24	20	26	21	18	22	19	16	14

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19869	19869	19869
5°	19945	19656	19772
10°	19825	19457	19556
15°	19580	19206	19184
20°	19234	18826	18806
25°	18887	18360	18360
30°	18442	17935	17780
35°	18027	17422	17164
40°	17506	16910	16583
45°	16993	16401	15995
50°	16435	15872	15307
55°	15854	15254	14688
60°	15206	14518	13986
65°	14514	13788	13154
70°	13629	12902	12288
75°	12402	11884	11584
80°	11000	10674	10126
85°	8985	8559	7669



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.7	2.0
10°-20°	325.6	5.8
20°-30°	478.6	8.5
30°-40°	555.9	9.8
40°-50°	555.3	9.8
50°-60°	484.3	8.6
60°-70°	358.1	6.3
70°-80°	202.8	3.6
80°-90°	56.7	1.0
90°-100°	28.8	0.5
100°-110°	105.5	1.9
110°-120°	282.1	5.0
120°-130°	465.6	8.2
130°-140°	495.2	8.7
140°-150°	460.3	8.1
150°-160°	370.1	6.5
160°-170°	238.5	4.2
170°-180°	82.1	1.4
0°-30°	919.9	16.2
0°-40°	1475.8	26.1
0°-60°	2515.4	44.4
0°-90°	3132.9	55.3
90°-120°	416.4	7.4
90°-150°	1837.6	32.5
90°-180°	2528.0	44.7
0°-180°	5661.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1231	1231	1231	1231	1231	
5°	1231	1225	1213	1222	1220	117
15°	1171	1164	1149	1153	1148	330
25°	1060	1050	1031	1033	1031	488
35°	915	902	884	877	871	571
45°	744	735	718	706	700	574
55°	563	556	542	528	522	503
65°	380	372	361	350	344	376
75°	199	196	190	184	186	212
85°	48	47	46	43	41	56
90°	1	7	12	16	17	4
95°	41	21	24	27	27	50
105°	190	198	38	45	47	203
115°	359	370	385	110	51	353
125°	508	516	527	532	534	452
135°	628	638	644	649	649	485
145°	728	728	738	742	740	455
155°	802	797	804	807	803	369
165°	845	842	843	847	843	239
175°	865	860	862	865	860	82
180°	863	863	863	863	863	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6
2.5°	1236.3	1235.2	1234.1	1233.1	1232.1	1230.4	1228.1	1225.7	1223.4	1221.1	1223.2
5°	1230.6	1229.5	1228.5	1227.4	1226.4	1224.4	1221.6	1218.6	1215.8	1212.8	1215.0
7.5°	1219.7	1218.1	1216.5	1214.8	1213.2	1210.9	1207.9	1205.0	1202.0	1199.1	1201.2
10°	1209.2	1207.5	1205.6	1203.7	1201.9	1199.4	1196.2	1193.1	1190.0	1186.8	1188.9
12.5°	1195.1	1193.5	1191.9	1190.2	1188.6	1186.2	1183.0	1179.8	1176.7	1173.6	1175.0
15°	1171.4	1169.8	1168.2	1166.7	1165.1	1162.6	1159.2	1155.7	1152.4	1149.0	1150.0
17.5°	1141.1	1139.5	1138.0	1136.4	1134.8	1132.3	1128.8	1125.3	1121.9	1118.4	1119.6
20°	1119.4	1117.8	1116.2	1114.6	1113.0	1110.4	1106.7	1103.0	1099.4	1095.7	1096.4
22.5°	1097.6	1095.4	1093.1	1090.9	1088.8	1085.9	1082.4	1079.0	1075.5	1072.0	1072.2
25°	1060.2	1058.1	1056.0	1053.9	1051.8	1048.5	1044.0	1039.6	1035.1	1030.6	1031.2
27.5°	1017.6	1015.7	1013.8	1011.9	1010.0	1007.3	1003.8	1000.2	996.8	993.2	992.5
30°	989.2	987.1	985.0	982.9	980.8	977.8	973.8	969.9	965.9	962.0	961.2
32.5°	958.9	957.3	955.6	953.9	952.2	949.2	945.1	940.9	936.8	932.6	931.2
35°	914.6	912.0	909.4	906.8	904.1	900.7	896.5	892.3	888.1	883.9	882.3
37.5°	864.7	862.4	860.1	857.7	855.5	852.2	848.0	843.8	839.5	835.4	833.4
40°	830.6	828.6	826.4	824.3	822.2	819.0	814.8	810.7	806.5	802.3	799.9
42.5°	797.5	795.4	793.3	791.2	789.1	786.0	781.8	777.6	773.3	769.1	766.5
45°	744.2	742.4	740.6	738.8	736.9	734.0	730.0	726.1	722.2	718.3	715.3
47.5°	691.3	689.6	687.8	686.1	684.3	681.4	677.3	673.2	669.1	664.9	661.9
50°	654.3	653.0	651.8	650.4	649.1	646.6	642.9	639.2	635.5	631.9	628.2
52.5°	618.4	616.6	614.9	613.1	611.4	608.9	605.4	601.9	598.4	594.9	591.9
55°	563.2	561.7	560.1	558.5	556.9	554.6	551.4	548.2	545.1	541.9	538.8
57.5°	507.8	506.6	505.3	504.1	502.8	500.4	497.0	493.5	490.0	486.5	483.5
60°	470.9	469.8	468.9	467.8	466.7	464.4	460.7	457.0	453.3	449.6	446.7
62.5°	435.0	433.3	431.6	429.9	428.2	426.0	423.1	420.3	417.4	414.6	412.0
65°	379.9	378.3	376.7	375.1	373.5	371.4	368.8	366.1	363.6	360.9	358.6
67.5°	323.8	322.4	321.2	319.9	318.7	316.9	314.5	312.1	309.8	307.4	305.6
70°	288.7	287.7	286.6	285.5	284.5	282.8	280.4	278.0	275.7	273.3	271.5
72.5°	252.7	251.7	250.7	249.6	248.5	247.3	245.8	244.2	242.6	241.1	239.3
75°	198.8	198.2	197.7	197.2	196.7	195.7	194.5	193.1	191.8	190.5	189.0
77.5°	150.5	149.6	148.7	147.8	147.0	146.2	145.7	145.2	144.6	144.1	143.3
80°	118.3	118.1	117.8	117.5	117.3	116.9	116.4	115.8	115.3	114.8	114.0
82.5°	88.0	88.0	87.9	87.8	87.8	87.7	87.3	87.0	86.7	86.4	85.3
85°	48.5	48.2	48.0	47.7	47.4	47.2	46.9	46.6	46.4	46.2	45.4
87.5°	17.1	17.0	16.9	16.9	16.7	16.6	16.3	16.1	16.0	15.8	15.2
90°	0.6	2.1	3.7	5.2	6.7	8.0	9.2	10.3	11.4	12.5	13.2
92.5°	12.6	12.5	12.3	12.2	12.0	12.3	12.8	13.4	13.9	14.4	14.8
95°	40.6	36.0	31.4	26.8	22.3	20.4	21.4	22.4	23.4	24.3	25.1
97.5°	80.5	67.6	54.8	41.8	28.9	23.6	25.9	28.1	30.3	32.5	33.2
100°	110.5	91.5	72.5	53.5	34.5	26.1	28.5	30.9	33.3	35.6	36.6
102.5°	143.5	139.5	135.4	131.3	127.3	115.5	95.8	76.1	56.3	36.6	38.0
105°	189.8	193.9	198.1	202.2	206.4	189.6	151.7	113.8	76.0	38.1	39.6
107.5°	242.5	245.9	249.3	252.6	256.0	235.0	189.6	144.2	98.7	53.3	51.7
110°	276.5	279.5	282.4	285.3	288.2	269.6	229.5	189.4	149.4	109.2	95.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	308.5	311.1	313.7	316.2	318.8	315.1	305.2	295.3	285.4	275.5	225.0
115°	358.9	361.3	363.6	366.0	368.4	371.3	374.8	378.3	381.7	385.1	320.9
117.5°	404.0	406.6	409.3	411.9	414.6	417.1	419.5	421.9	424.2	426.6	411.1
120°	436.9	439.1	441.1	443.2	445.3	447.5	450.0	452.5	455.0	457.5	459.2
122.5°	464.9	467.2	469.3	471.5	473.7	476.2	478.8	481.6	484.3	487.1	488.0
125°	507.5	509.3	511.1	512.9	514.7	516.9	519.6	522.2	524.9	527.4	528.4
127.5°	546.1	548.0	550.1	552.1	554.1	556.1	558.0	560.0	562.0	563.9	565.3
130°	570.5	572.7	575.0	577.2	579.4	581.3	582.8	584.3	585.9	587.5	589.0
132.5°	595.6	597.4	599.3	601.2	603.1	604.8	606.3	607.8	609.4	610.9	612.2
135°	628.0	630.2	632.4	634.6	636.9	638.6	639.9	641.1	642.4	643.6	645.0
137.5°	660.8	662.4	664.0	665.5	667.0	668.5	669.9	671.4	672.8	674.2	675.6
140°	682.3	683.4	684.5	685.6	686.7	688.0	689.6	691.1	692.6	694.2	695.4
142.5°	700.3	701.2	702.3	703.3	704.3	705.6	707.4	709.2	710.9	712.7	713.8
145°	728.5	728.3	728.3	728.1	727.9	729.1	731.4	733.8	736.1	738.5	739.5
147.5°	753.0	752.6	752.1	751.5	751.0	751.9	754.2	756.5	758.8	761.2	762.0
150°	769.1	768.1	767.1	766.2	765.2	765.8	768.0	770.3	772.5	774.7	775.5
152.5°	782.6	781.5	780.4	779.3	778.2	778.7	780.9	782.9	785.1	787.2	788.0
155°	802.2	800.9	799.7	798.4	797.2	797.4	799.1	800.7	802.4	804.1	804.9
157.5°	817.5	816.5	815.4	814.3	813.3	813.3	814.5	815.6	816.8	818.0	818.9
160°	826.5	825.6	824.8	824.0	823.1	823.1	824.0	824.8	825.6	826.5	827.3
162.5°	834.5	833.7	832.9	832.0	831.2	831.1	831.8	832.6	833.3	834.0	834.9
165°	845.3	844.4	843.6	842.8	841.9	841.7	842.1	842.5	842.9	843.4	844.4
167.5°	853.2	852.4	851.6	850.7	849.9	849.7	850.1	850.4	850.9	851.2	852.2
170°	857.7	856.8	856.0	855.2	854.3	854.1	854.3	854.7	855.0	855.2	856.2
172.5°	860.7	859.9	859.1	858.2	857.4	857.1	857.4	857.6	857.9	858.2	859.2
175°	864.6	863.6	862.6	861.7	860.7	860.3	860.6	860.9	861.2	861.5	862.5
177.5°	865.2	864.4	863.6	862.9	862.1	861.7	861.8	862.0	862.1	862.2	863.0
180°	862.7	862.7	862.7	862.7	862.7	862.7	862.7	862.7	862.7	862.7	862.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6	1230.6
2.5°	1225.3	1227.4	1229.5	1230.4	1229.9	1229.5	1229.1	1228.7
5°	1217.0	1219.1	1221.3	1222.0	1221.6	1221.0	1220.5	1219.9
7.5°	1203.3	1205.4	1207.6	1208.3	1207.7	1207.1	1206.6	1205.9
10°	1191.0	1193.1	1195.2	1195.9	1195.1	1194.3	1193.5	1192.8
12.5°	1176.5	1177.9	1179.5	1179.9	1179.3	1178.8	1178.1	1177.6
15°	1151.0	1152.1	1153.2	1153.0	1151.7	1150.4	1149.1	1147.7
17.5°	1120.8	1122.0	1123.3	1123.2	1122.0	1120.7	1119.5	1118.2
20°	1097.3	1098.1	1098.9	1098.7	1097.7	1096.6	1095.6	1094.5
22.5°	1072.4	1072.5	1072.6	1072.5	1071.7	1071.1	1070.5	1069.9
25°	1031.7	1032.2	1032.7	1032.7	1032.2	1031.7	1031.2	1030.6
27.5°	991.7	990.9	990.1	989.1	987.7	986.5	985.3	984.0
30°	960.4	959.7	958.9	957.9	956.9	955.8	954.8	953.7
32.5°	929.8	928.4	926.9	925.7	924.7	923.6	922.6	921.5
35°	880.7	879.1	877.6	876.1	874.9	873.5	872.2	870.8
37.5°	831.5	829.6	827.6	826.0	824.7	823.5	822.2	820.9
40°	797.5	795.1	792.8	791.0	790.1	789.0	787.9	786.8
42.5°	763.9	761.3	758.8	756.8	755.3	753.9	752.3	750.9
45°	712.5	709.5	706.7	704.7	703.6	702.6	701.5	700.5
47.5°	658.9	655.9	652.8	650.5	649.0	647.5	646.0	644.4
50°	624.5	620.8	617.2	614.7	613.3	612.0	610.7	609.4
52.5°	588.8	585.8	582.7	580.3	578.6	576.8	575.2	573.4
55°	535.7	532.4	529.3	527.1	525.8	524.4	523.2	521.8
57.5°	480.4	477.2	474.1	472.1	471.1	470.1	469.1	468.1
60°	443.9	441.0	438.1	436.2	435.4	434.6	433.8	433.1
62.5°	409.2	406.5	403.9	402.1	401.0	400.0	399.0	398.1
65°	356.1	353.8	351.4	349.6	348.3	347.0	345.6	344.3
67.5°	303.7	301.8	300.1	298.6	297.6	296.5	295.4	294.4
70°	269.7	267.8	266.0	264.5	263.5	262.4	261.4	260.3
72.5°	237.5	235.6	233.8	232.5	231.6	230.8	229.9	229.1
75°	187.3	185.7	184.2	183.7	184.2	184.8	185.2	185.7
77.5°	142.6	141.8	141.0	140.2	139.5	138.8	138.0	137.2
80°	113.2	112.4	111.6	110.9	110.4	109.9	109.4	108.9
82.5°	84.4	83.4	82.4	81.9	81.7	81.6	81.5	81.4
85°	44.6	43.8	43.0	42.4	42.2	41.9	41.6	41.4
87.5°	14.8	14.3	13.8	13.5	13.3	13.1	13.0	12.8
90°	13.9	14.5	15.2	15.8	16.1	16.3	16.6	16.9
92.5°	15.2	15.6	16.0	16.2	16.3	16.5	16.7	16.9
95°	25.8	26.4	27.1	27.4	27.3	27.1	27.0	26.8
97.5°	33.7	34.2	34.8	35.1	35.3	35.5	35.7	35.8
100°	37.8	38.9	40.0	40.8	41.0	41.3	41.6	41.8
102.5°	39.5	40.9	42.4	43.2	43.7	44.1	44.4	44.9
105°	41.1	42.6	44.1	45.2	45.7	46.4	46.9	47.4
107.5°	50.2	48.7	47.1	46.6	47.2	47.7	48.2	48.8
110°	81.5	67.6	53.8	47.1	47.6	48.2	48.8	49.3



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CATALOG NUMBER: S122DIW-S865D710U940-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	174.3	123.8	73.1	48.1	48.5	49.0	49.4	49.8
115°	256.7	192.4	128.2	91.1	81.1	71.2	61.2	51.2
117.5°	395.6	380.0	364.4	340.3	307.5	274.6	241.8	209.0
120°	460.9	462.5	464.2	455.7	436.9	418.2	399.5	380.8
122.5°	489.0	490.0	491.1	489.7	486.1	482.4	478.8	475.2
125°	529.4	530.4	531.4	532.1	532.4	532.9	533.3	533.7
127.5°	566.8	568.2	569.6	570.3	570.4	570.5	570.6	570.7
130°	590.5	592.0	593.5	594.2	594.1	594.0	593.8	593.7
132.5°	613.5	614.8	616.1	616.7	616.5	616.4	616.3	616.2
135°	646.4	647.7	649.2	649.7	649.4	649.2	648.9	648.6
137.5°	676.9	678.2	679.7	680.1	679.6	679.1	678.7	678.1
140°	696.7	697.9	699.2	699.5	698.7	698.0	697.3	696.7
142.5°	714.9	716.0	717.2	717.4	716.8	716.0	715.3	714.6
145°	740.4	741.4	742.3	742.5	741.8	741.1	740.4	739.8
147.5°	762.7	763.4	764.1	764.2	763.6	763.0	762.4	761.8
150°	776.3	777.2	778.0	778.1	777.4	776.7	776.0	775.3
152.5°	788.8	789.7	790.5	790.5	789.5	788.6	787.7	786.8
155°	805.7	806.6	807.4	807.2	806.1	805.0	803.9	802.8
157.5°	819.9	820.8	821.8	821.7	820.6	819.6	818.5	817.3
160°	828.1	829.0	829.8	829.7	828.8	827.8	826.9	825.9
162.5°	835.9	836.8	837.8	837.7	836.4	835.3	834.0	832.9
165°	845.3	846.2	847.2	847.2	846.2	845.3	844.4	843.4
167.5°	853.2	854.2	855.1	855.0	853.7	852.5	851.2	850.0
170°	857.2	858.1	859.1	859.0	857.7	856.5	855.2	854.0
172.5°	860.1	861.1	862.1	861.9	860.7	859.4	858.2	856.9
175°	863.4	864.3	865.3	865.1	863.7	862.4	860.9	859.6
177.5°	863.8	864.5	865.3	865.2	864.2	863.2	862.2	861.2
180°	862.7	862.7	862.7	862.7	862.7	862.7	862.7	862.7

(END OF REPORT)