

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: P331831-935

Luminaire Tested: **S122RDIW-S865D710U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331831-935  
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: S122RDIW-S865D710U935-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 710 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

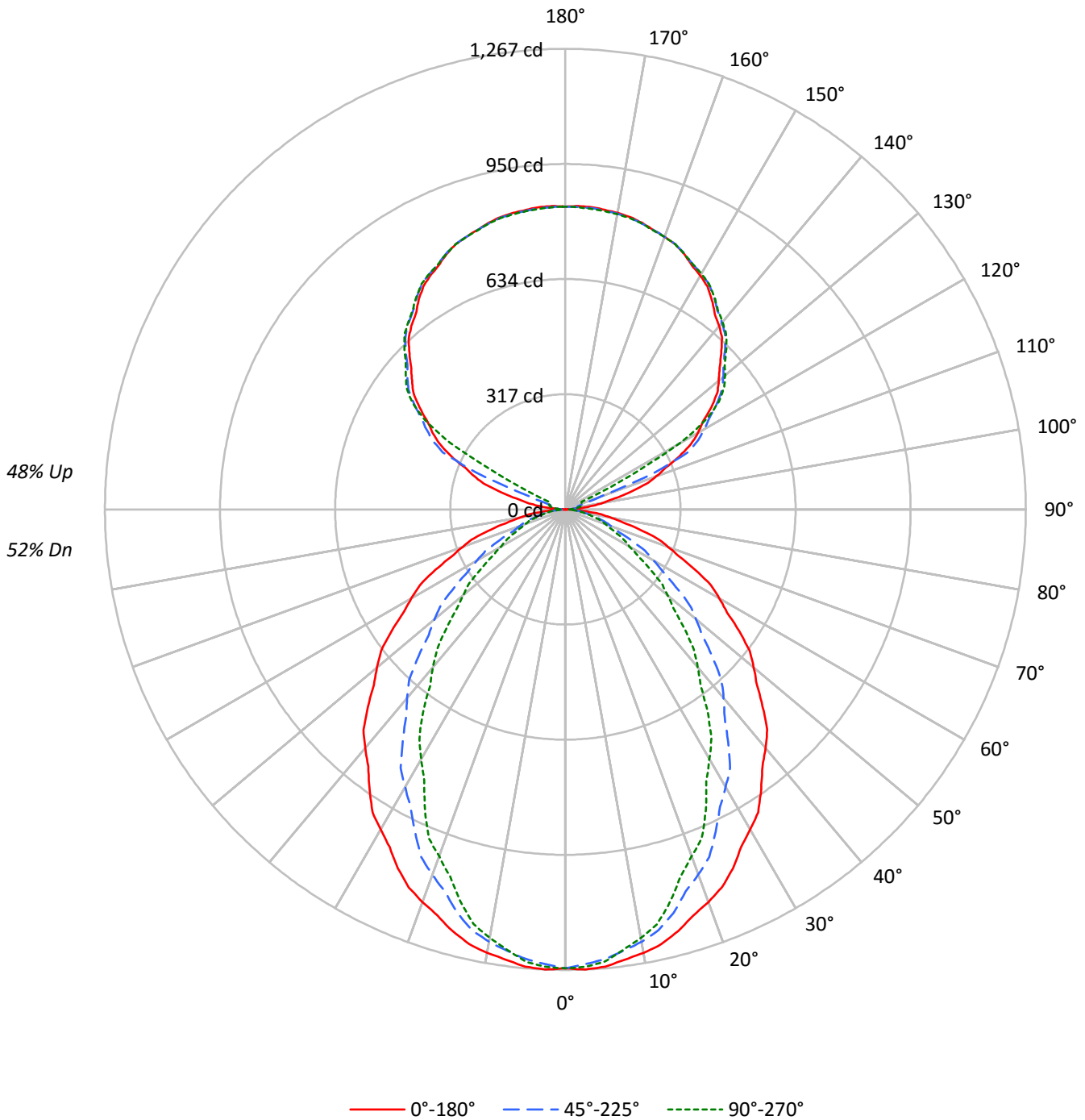
Lumens per Lamp: N/A  
Luminaire Lumens: 5039.8 lumens  
Efficiency: N/A  
Efficacy: 94.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: General Diffuse

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	99	99	99	99	84	84	84	70	70	70	58	58	58	52
1	99	94	91	87	91	88	84	81	75	72	70	63	61	60	52	51	50	44
2	90	83	77	72	83	77	72	68	66	62	59	56	53	50	46	44	42	38
3	83	73	66	61	76	68	62	57	59	54	50	50	46	43	41	39	37	33
4	76	65	58	52	70	61	54	49	52	47	43	45	41	38	37	34	32	29
5	70	58	51	45	64	55	48	42	47	42	38	40	36	33	34	31	28	25
6	64	53	45	39	60	49	42	37	43	37	33	37	32	29	31	28	25	22
7	60	48	40	34	55	45	38	33	39	33	29	33	29	26	28	25	23	20
8	56	43	36	31	51	41	34	29	36	30	26	31	26	23	26	23	20	18
9	52	40	32	27	48	37	31	26	33	27	24	28	24	21	24	21	19	16
10	48	37	29	25	45	34	28	24	30	25	21	26	22	19	22	19	17	15

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	20384	20384	20384
5°	20462	20128	20238
10°	20305	19799	19630
15°	20072	19211	18658
20°	19747	18374	17452
25°	19417	17423	16283
30°	18957	16444	14783
35°	18510	15380	13466
40°	18061	14280	11944
45°	17532	13045	10565
50°	16990	11796	9211
55°	16434	10452	7910
60°	15791	9038	6568
65°	15060	7595	5979
70°	14186	6255	5500
75°	13119	5702	5128
80°	11576	5095	4677
85°	9114	4020	4020



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.2	2.3
10°-20°	324.5	6.4
20°-30°	455.6	9.0
30°-40°	496.8	9.9
40°-50°	456.8	9.1
50°-60°	358.8	7.1
60°-70°	233.9	4.6
70°-80°	120.6	2.4
80°-90°	33.4	0.7
90°-100°	27.8	0.6
100°-110°	101.9	2.0
110°-120°	272.4	5.4
120°-130°	449.6	8.9
130°-140°	478.2	9.5
140°-150°	444.4	8.8
150°-160°	357.3	7.1
160°-170°	230.3	4.6
170°-180°	79.3	1.6
0°-30°	898.3	17.8
0°-40°	1395.1	27.7
0°-60°	2210.7	43.9
0°-90°	2598.6	51.6
90°-120°	402.1	8.0
90°-150°	1774.3	35.2
90°-180°	2441.0	48.4
0°-180°	5039.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1262	1262	1262	1262	1262	
5°	1262	1256	1242	1251	1249	120
15°	1201	1187	1149	1128	1116	338
25°	1090	1051	978	933	914	501
35°	939	878	780	711	683	587
45°	768	689	571	493	463	593
55°	584	493	371	305	281	521
65°	394	301	199	162	156	391
75°	210	133	91	84	82	223
85°	49	26	22	22	22	58
90°	1	7	12	15	16	4
95°	39	21	24	26	26	48
105°	183	191	37	43	46	196
115°	347	357	372	106	49	341
125°	490	498	509	513	515	437
135°	606	616	622	627	626	468
145°	703	703	713	717	714	440
155°	775	770	776	779	775	357
165°	816	813	814	818	814	230
175°	835	831	832	835	830	79
180°	833	833	833	833	833	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5
2.5°	1267.0	1266.0	1265.0	1263.9	1263.0	1261.4	1259.1	1256.9	1254.6	1252.4	1254.5
5°	1262.5	1261.2	1259.9	1258.6	1257.4	1255.1	1251.8	1248.5	1245.2	1241.9	1244.1
7.5°	1249.4	1247.8	1246.3	1244.7	1243.1	1240.4	1236.6	1232.7	1228.8	1224.9	1225.6
10°	1238.5	1236.7	1234.9	1233.1	1231.3	1228.0	1222.9	1217.8	1212.7	1207.6	1206.9
12.5°	1224.8	1222.5	1220.4	1218.2	1216.0	1211.7	1205.1	1198.7	1192.1	1185.7	1184.3
15°	1200.8	1198.0	1195.2	1192.4	1189.6	1183.9	1175.3	1166.7	1158.0	1149.3	1144.5
17.5°	1171.3	1167.0	1162.8	1158.5	1154.3	1146.6	1135.5	1124.4	1113.4	1102.3	1096.6
20°	1149.3	1144.3	1139.2	1134.1	1129.0	1120.2	1107.4	1094.8	1082.1	1069.4	1063.0
22.5°	1125.6	1119.9	1114.2	1108.5	1102.9	1092.9	1078.5	1064.2	1049.9	1035.5	1027.3
25°	1089.9	1081.8	1073.7	1065.6	1057.5	1045.0	1028.2	1011.5	994.7	978.0	967.6
27.5°	1047.0	1038.1	1029.3	1020.5	1011.7	997.8	978.9	960.0	941.1	922.2	910.1
30°	1016.8	1007.2	997.6	987.9	978.3	963.3	943.0	922.6	902.3	882.0	869.1
32.5°	987.6	976.3	965.0	953.7	942.5	926.5	905.8	885.0	864.4	843.6	828.9
35°	939.1	926.2	913.3	900.3	887.3	869.7	847.3	825.0	802.7	780.3	764.3
37.5°	890.7	876.5	862.3	848.0	833.8	814.8	791.0	767.2	743.4	719.5	701.9
40°	856.9	841.6	826.4	811.1	795.9	776.0	751.4	726.8	702.1	677.5	659.4
42.5°	822.2	806.1	790.1	774.0	757.9	737.2	711.8	686.3	660.9	635.4	616.8
45°	767.8	750.7	733.7	716.7	699.7	677.9	651.3	624.6	597.9	571.3	553.2
47.5°	714.7	696.7	678.7	660.6	642.7	619.8	592.4	564.8	537.3	509.8	491.9
50°	676.4	658.3	640.3	622.2	604.2	581.3	553.4	525.4	497.5	469.6	452.0
52.5°	638.9	620.0	601.2	582.4	563.5	540.4	513.2	485.8	458.5	431.2	414.2
55°	583.8	564.0	544.2	524.4	504.6	481.0	453.6	426.1	398.7	371.3	356.1
57.5°	527.4	507.0	486.7	466.4	446.2	422.8	396.4	370.1	343.7	317.4	303.4
60°	489.0	468.6	448.4	428.1	407.8	384.5	358.3	332.2	306.1	279.9	267.0
62.5°	451.5	431.2	410.9	390.5	370.2	347.7	322.7	297.8	272.9	247.9	235.6
65°	394.2	373.6	353.0	332.4	311.9	290.2	267.3	244.5	221.6	198.8	190.2
67.5°	338.9	318.5	298.1	277.6	257.2	236.7	216.2	195.6	175.0	154.5	150.5
70°	300.5	280.7	260.9	241.1	221.3	202.6	185.1	167.6	150.1	132.5	130.0
72.5°	263.9	245.0	225.9	207.0	188.0	171.4	157.4	143.3	129.2	115.2	113.0
75°	210.3	192.4	174.7	156.9	139.1	126.0	117.3	108.7	100.0	91.4	89.6
77.5°	157.5	141.8	126.2	110.6	95.1	85.2	81.0	76.9	72.8	68.5	67.5
80°	124.5	111.6	98.7	85.7	72.8	65.0	62.4	59.9	57.3	54.8	53.8
82.5°	94.4	84.3	74.1	64.1	54.0	48.0	46.3	44.6	42.9	41.2	40.6
85°	49.2	43.8	38.5	33.1	27.8	24.8	24.0	23.2	22.5	21.7	21.7
87.5°	14.7	13.4	12.1	10.8	9.4	8.9	9.0	9.3	9.5	9.7	9.6
90°	0.6	2.1	3.5	5.0	6.5	7.7	8.9	9.9	11.0	12.1	12.7
92.5°	12.1	12.1	11.9	11.8	11.6	11.9	12.4	12.9	13.4	13.9	14.3
95°	39.2	34.8	30.3	25.9	21.5	19.7	20.7	21.6	22.6	23.5	24.2
97.5°	77.7	65.3	52.9	40.4	27.9	22.8	25.0	27.1	29.3	31.4	32.0
100°	106.7	88.3	70.0	51.7	33.3	25.2	27.6	29.8	32.1	34.4	35.4
102.5°	138.5	134.7	130.7	126.8	123.0	111.5	92.5	73.4	54.3	35.3	36.7
105°	183.2	187.3	191.3	195.3	199.3	183.0	146.5	109.9	73.4	36.8	38.2
107.5°	234.2	237.5	240.7	243.9	247.2	226.9	183.0	139.2	95.3	51.5	49.9
110°	267.0	269.8	272.7	275.4	278.3	260.3	221.6	182.9	144.2	105.5	92.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	297.9	300.4	302.9	305.3	307.8	304.3	294.7	285.2	275.6	266.0	217.2
115°	346.6	348.9	351.1	353.4	355.7	358.5	361.9	365.2	368.5	371.9	309.9
117.5°	390.1	392.6	395.2	397.7	400.3	402.7	405.0	407.3	409.6	411.9	396.9
120°	421.9	424.0	425.9	427.9	430.0	432.1	434.5	437.0	439.4	441.8	443.4
122.5°	448.9	451.1	453.1	455.3	457.4	459.8	462.4	465.0	467.6	470.3	471.2
125°	490.0	491.8	493.5	495.2	497.0	499.1	501.7	504.2	506.8	509.3	510.2
127.5°	527.3	529.2	531.2	533.0	535.0	536.9	538.8	540.7	542.6	544.5	545.9
130°	550.9	553.0	555.2	557.3	559.5	561.3	562.7	564.2	565.7	567.2	568.7
132.5°	575.1	576.9	578.7	580.5	582.3	583.9	585.4	586.9	588.4	589.9	591.1
135°	606.4	608.5	610.6	612.8	614.9	616.6	617.9	619.1	620.3	621.5	622.8
137.5°	638.1	639.6	641.1	642.6	644.0	645.5	646.9	648.2	649.6	651.0	652.3
140°	658.8	659.9	660.9	662.0	663.1	664.3	665.8	667.3	668.7	670.3	671.5
142.5°	676.1	677.1	678.1	679.1	680.0	681.3	683.0	684.8	686.4	688.1	689.2
145°	703.4	703.3	703.2	703.0	702.8	704.0	706.2	708.5	710.8	713.1	714.0
147.5°	727.1	726.7	726.2	725.7	725.1	726.0	728.2	730.5	732.7	734.9	735.7
150°	742.6	741.7	740.7	739.8	738.8	739.4	741.6	743.7	745.9	748.0	748.8
152.5°	755.6	754.6	753.5	752.4	751.4	751.9	754.0	756.0	758.0	760.1	760.9
155°	774.6	773.4	772.1	770.9	769.7	769.9	771.5	773.1	774.7	776.4	777.1
157.5°	789.4	788.3	787.3	786.3	785.3	785.3	786.4	787.6	788.7	789.8	790.7
160°	798.1	797.2	796.4	795.7	794.8	794.8	795.7	796.4	797.2	798.1	798.8
162.5°	805.7	804.9	804.2	803.3	802.5	802.5	803.1	803.9	804.6	805.3	806.2
165°	816.1	815.3	814.5	813.7	812.9	812.7	813.1	813.5	813.9	814.3	815.3
167.5°	823.8	823.0	822.3	821.4	820.6	820.4	820.8	821.1	821.6	821.9	822.9
170°	828.2	827.3	826.6	825.8	824.9	824.7	824.9	825.3	825.5	825.8	826.7
172.5°	831.0	830.3	829.5	828.6	827.9	827.6	827.9	828.1	828.4	828.6	829.6
175°	834.8	833.9	832.9	832.0	831.0	830.7	831.0	831.3	831.6	831.8	832.8
177.5°	835.4	834.7	833.9	833.2	832.4	832.1	832.2	832.3	832.4	832.5	833.3
180°	833.0	833.0	833.0	833.0	833.0	833.0	833.0	833.0	833.0	833.0	833.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5	1262.5
2.5°	1256.5	1258.5	1260.5	1261.4	1260.9	1260.5	1260.2	1259.7
5°	1246.5	1248.7	1251.0	1251.8	1251.0	1250.3	1249.5	1248.7
7.5°	1226.3	1226.9	1227.6	1227.3	1226.0	1224.7	1223.3	1222.0
10°	1206.1	1205.3	1204.5	1203.4	1201.9	1200.4	1198.9	1197.3
12.5°	1182.9	1181.6	1180.2	1178.3	1175.7	1173.2	1170.6	1168.1
15°	1139.7	1134.9	1130.1	1126.4	1123.9	1121.3	1118.8	1116.2
17.5°	1090.8	1085.0	1079.3	1074.3	1069.9	1065.6	1061.2	1056.8
20°	1056.7	1050.3	1044.0	1038.0	1032.4	1026.8	1021.2	1015.7
22.5°	1019.3	1011.1	1002.9	996.7	992.6	988.3	984.2	980.1
25°	957.2	946.8	936.3	929.2	925.4	921.6	917.8	914.0
27.5°	897.9	885.8	873.7	864.6	858.6	852.5	846.4	840.4
30°	856.1	843.2	830.2	820.3	813.5	806.6	799.8	792.9
32.5°	814.1	799.3	784.5	773.9	767.5	761.0	754.6	748.1
35°	748.3	732.4	716.4	705.6	700.0	694.4	688.8	683.2
37.5°	684.3	666.7	649.1	637.1	630.7	624.2	617.9	611.5
40°	641.4	623.5	605.4	593.1	586.5	579.9	573.3	566.7
42.5°	598.2	579.5	560.9	548.4	542.0	535.6	529.2	522.8
45°	535.2	517.2	499.1	487.1	481.0	474.9	468.8	462.7
47.5°	473.9	456.0	438.1	426.4	420.9	415.3	409.7	404.2
50°	434.5	417.0	399.5	388.1	382.7	377.4	372.0	366.7
52.5°	397.4	380.5	363.5	352.7	347.7	342.8	337.9	332.9
55°	340.9	325.6	310.4	300.3	295.5	290.7	285.9	281.0
57.5°	289.5	275.5	261.6	252.5	248.5	244.4	240.3	236.3
60°	254.0	241.1	228.1	219.6	215.5	211.5	207.4	203.4
62.5°	223.3	210.9	198.5	191.1	188.7	186.3	183.8	181.4
65°	181.5	172.9	164.3	159.5	158.8	158.1	157.3	156.5
67.5°	146.5	142.6	138.6	136.2	135.4	134.6	133.8	133.0
70°	127.4	124.9	122.3	120.6	119.6	118.6	117.5	116.5
72.5°	110.9	108.7	106.6	105.3	104.6	104.0	103.4	102.8
75°	87.8	86.1	84.3	83.3	83.0	82.7	82.5	82.2
77.5°	66.6	65.5	64.5	63.8	63.4	62.9	62.6	62.2
80°	52.8	51.8	50.8	50.3	50.3	50.3	50.3	50.3
82.5°	40.0	39.3	38.7	38.4	38.4	38.4	38.4	38.4
85°	21.7	21.7	21.7	21.7	21.7	21.7	21.7	21.7
87.5°	9.6	9.6	9.5	9.5	9.5	9.6	9.6	9.6
90°	13.4	14.0	14.7	15.2	15.5	15.8	16.0	16.3
92.5°	14.7	15.1	15.4	15.7	15.8	15.9	16.1	16.3
95°	24.9	25.5	26.2	26.4	26.3	26.2	26.1	25.9
97.5°	32.5	33.1	33.6	33.9	34.1	34.3	34.4	34.6
100°	36.5	37.5	38.7	39.3	39.6	39.9	40.1	40.4
102.5°	38.1	39.5	40.9	41.8	42.2	42.5	42.9	43.3
105°	39.7	41.2	42.6	43.7	44.2	44.8	45.3	45.8
107.5°	48.5	47.0	45.5	45.0	45.5	46.1	46.6	47.1
110°	78.7	65.3	51.9	45.5	46.0	46.6	47.1	47.6





TEST NUMBER: P331831-935

CATALOG NUMBER: S122RDIW-S865D710U935-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	168.3	119.5	70.6	46.4	46.8	47.3	47.7	48.1
115°	247.9	185.8	123.8	88.0	78.4	68.7	59.1	49.4
117.5°	381.9	366.9	351.9	328.6	296.9	265.2	233.5	201.8
120°	445.1	446.6	448.2	440.0	421.9	403.8	385.7	367.6
122.5°	472.2	473.1	474.2	472.9	469.3	465.8	462.4	458.8
125°	511.2	512.1	513.1	513.8	514.1	514.5	515.0	515.3
127.5°	547.3	548.6	550.0	550.7	550.8	550.9	551.0	551.0
130°	570.2	571.6	573.1	573.8	573.6	573.5	573.3	573.3
132.5°	592.4	593.7	594.9	595.5	595.3	595.2	595.0	595.0
135°	624.1	625.4	626.8	627.3	627.1	626.8	626.5	626.3
137.5°	653.6	654.9	656.3	656.7	656.2	655.7	655.3	654.8
140°	672.7	673.9	675.1	675.4	674.7	674.0	673.3	672.7
142.5°	690.3	691.4	692.5	692.7	692.1	691.4	690.7	690.0
145°	714.9	715.8	716.8	717.0	716.3	715.6	714.9	714.3
147.5°	736.4	737.1	737.8	737.9	737.3	736.8	736.2	735.6
150°	749.6	750.4	751.2	751.3	750.6	749.9	749.2	748.6
152.5°	761.6	762.5	763.3	763.3	762.3	761.5	760.6	759.7
155°	777.9	778.8	779.5	779.4	778.3	777.3	776.2	775.2
157.5°	791.7	792.6	793.5	793.4	792.4	791.3	790.3	789.2
160°	799.6	800.5	801.2	801.2	800.2	799.3	798.4	797.5
162.5°	807.1	808.0	808.9	808.8	807.6	806.5	805.3	804.2
165°	816.2	817.1	818.0	818.0	817.1	816.2	815.3	814.3
167.5°	823.8	824.8	825.6	825.5	824.3	823.1	821.9	820.7
170°	827.7	828.5	829.5	829.4	828.2	827.0	825.8	824.6
172.5°	830.5	831.5	832.4	832.2	831.0	829.8	828.6	827.4
175°	833.7	834.6	835.5	835.3	834.0	832.7	831.3	830.0
177.5°	834.1	834.7	835.5	835.4	834.5	833.4	832.5	831.6
180°	833.0	833.0	833.0	833.0	833.0	833.0	833.0	833.0

(END OF REPORT)