

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: P331827-935

Luminaire Tested: **S122RDIW-S865D435U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331827-935  
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-S865D435U935-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 435 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

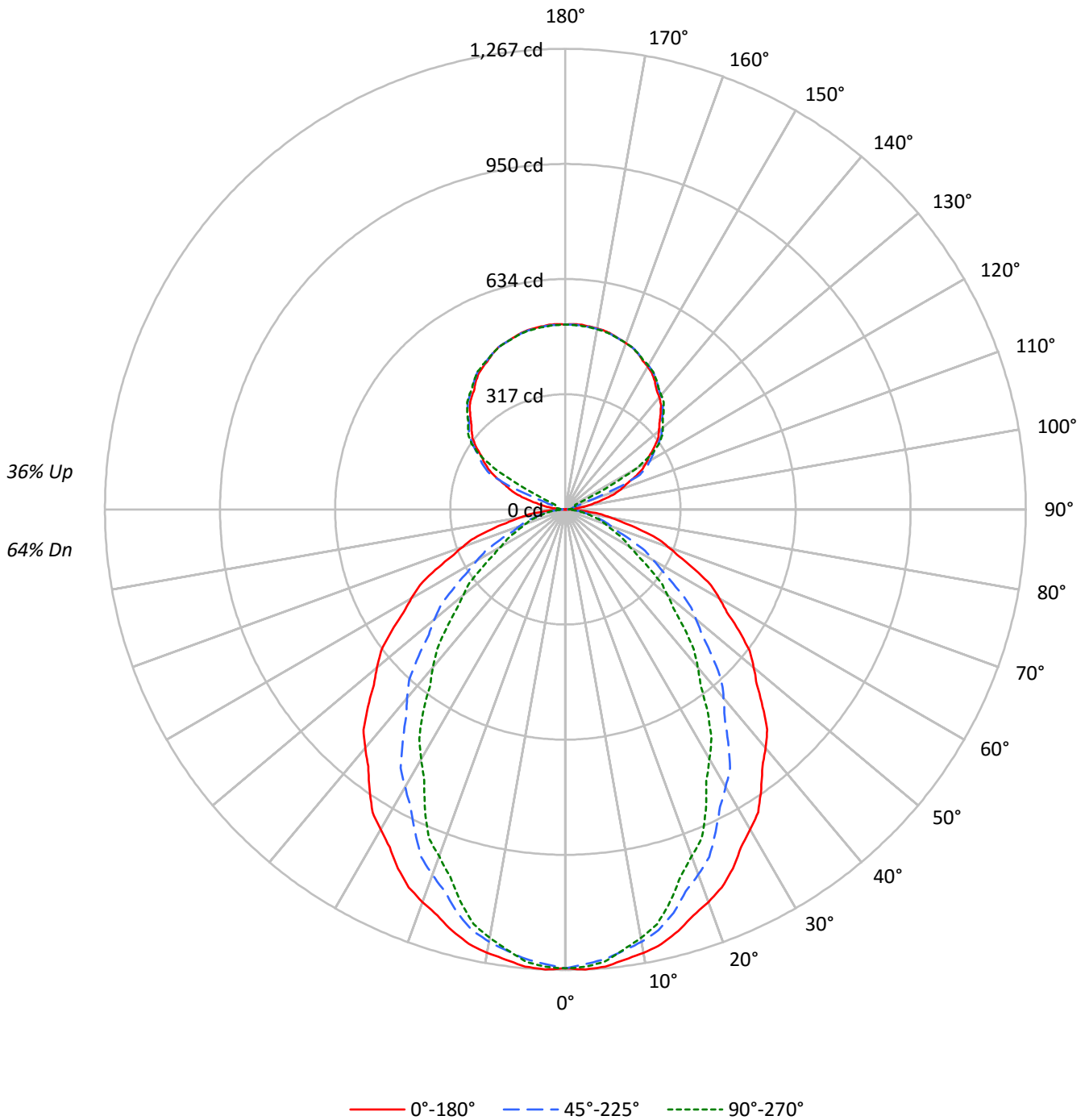
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4088.2 lumens  
Efficiency: N/A  
Efficacy: 88.5 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: 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	50	30	10	0	
RCR																						
0	110	110	110	110	104	104	104	104	91	91	91	79	79	79	69	69	69	64				
1	101	97	93	90	95	91	88	85	81	78	76	71	69	67	62	60	59	55				
2	93	86	80	75	87	81	75	71	71	67	64	63	60	57	55	53	51	47				
3	85	76	69	63	80	72	65	60	64	59	54	56	52	49	49	46	44	40				
4	78	68	60	54	73	64	57	52	57	51	47	50	46	43	44	41	38	35				
5	72	61	53	47	68	57	50	45	51	46	41	46	41	37	40	37	34	31				
6	67	55	47	41	63	52	45	39	47	41	36	42	37	33	37	33	30	28				
7	62	50	42	36	58	47	40	35	42	37	32	38	33	30	34	30	27	25				
8	58	45	38	32	54	43	36	31	39	33	29	35	30	27	31	27	24	22				
9	54	42	34	29	51	40	33	28	36	30	26	32	28	24	29	25	22	20				
10	50	38	31	26	47	37	30	25	33	28	24	30	25	22	27	23	20	18				

**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	2.9
10°-20°	324.5	7.9
20°-30°	455.6	11.1
30°-40°	496.8	12.2
40°-50°	456.8	11.2
50°-60°	358.8	8.8
60°-70°	233.9	5.7
70°-80°	120.6	2.9
80°-90°	32.6	0.8
90°-100°	17.0	0.4
100°-110°	62.2	1.5
110°-120°	166.3	4.1
120°-130°	274.5	6.7
130°-140°	291.9	7.1
140°-150°	271.3	6.6
150°-160°	218.2	5.3
160°-170°	140.6	3.4
170°-180°	48.4	1.2
0°-30°	898.3	22.0
0°-40°	1395.1	34.1
0°-60°	2210.7	54.1
0°-90°	2597.8	63.5
90°-120°	245.5	6.0
90°-150°	1083.3	26.5
90°-180°	1490.0	36.4
0°-180°	4088.2	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°	0	4	7	9	10	3
95°	24	13	14	16	16	29
105°	112	117	22	26	28	120
115°	212	218	227	65	30	208
125°	299	304	311	313	315	267
135°	370	376	379	383	382	286
145°	430	429	435	438	436	269
155°	473	470	474	476	473	218
165°	498	496	497	500	497	141
175°	510	507	508	510	507	48
180°	509	509	509	509	509	



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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	13.3	11.8	10.3	9.0	8.3	8.4	8.5	8.7	8.8	8.7
90°	0.3	1.3	2.2	3.1	4.0	4.7	5.4	6.0	6.7	7.3	7.7
92.5°	7.4	7.3	7.2	7.1	7.1	7.2	7.6	7.9	8.2	8.5	8.8
95°	23.9	21.2	18.5	15.8	13.1	12.1	12.7	13.2	13.8	14.4	14.7
97.5°	47.4	39.9	32.3	24.6	17.0	13.9	15.2	16.5	17.9	19.2	19.5
100°	65.2	53.9	42.7	31.5	20.3	15.4	16.8	18.2	19.5	21.0	21.6
102.5°	84.6	82.2	79.8	77.5	75.1	68.1	56.5	44.9	33.2	21.5	22.4
105°	111.8	114.3	116.8	119.2	121.7	111.8	89.5	67.1	44.8	22.5	23.3
107.5°	143.0	145.0	147.0	149.0	150.9	138.5	111.8	85.0	58.2	31.4	30.5
110°	163.0	164.7	166.4	168.2	169.9	158.9	135.3	111.7	88.0	64.4	56.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	181.8	183.4	184.9	186.4	188.0	185.8	179.9	174.1	168.2	162.5	132.6
115°	211.6	213.0	214.4	215.8	217.1	218.9	220.9	223.0	225.0	227.0	189.2
117.5°	238.2	239.7	241.3	242.8	244.4	245.9	247.3	248.7	250.1	251.5	242.4
120°	257.6	258.8	260.0	261.3	262.5	263.9	265.4	266.8	268.3	269.8	270.7
122.5°	274.1	275.3	276.6	277.9	279.2	280.7	282.3	283.9	285.5	287.1	287.7
125°	299.2	300.2	301.4	302.4	303.4	304.7	306.3	307.9	309.4	311.0	311.5
127.5°	321.9	323.1	324.3	325.5	326.7	327.8	329.0	330.1	331.3	332.4	333.3
130°	336.4	337.7	339.0	340.3	341.6	342.7	343.6	344.5	345.4	346.3	347.2
132.5°	351.1	352.1	353.3	354.4	355.5	356.5	357.4	358.3	359.2	360.2	360.9
135°	370.2	371.5	372.8	374.1	375.5	376.4	377.2	378.0	378.7	379.4	380.2
137.5°	389.6	390.5	391.4	392.4	393.2	394.1	394.9	395.8	396.6	397.4	398.2
140°	402.3	402.9	403.6	404.2	404.8	405.6	406.6	407.4	408.3	409.2	409.9
142.5°	412.8	413.5	414.0	414.6	415.2	416.0	417.0	418.0	419.0	420.1	420.8
145°	429.5	429.4	429.3	429.2	429.1	429.8	431.2	432.6	433.9	435.3	435.9
147.5°	443.9	443.7	443.3	443.1	442.7	443.2	444.6	446.0	447.4	448.8	449.2
150°	453.4	452.8	452.2	451.7	451.1	451.4	452.8	454.1	455.4	456.7	457.2
152.5°	461.3	460.7	460.0	459.4	458.7	459.1	460.3	461.6	462.8	464.1	464.5
155°	472.9	472.2	471.4	470.7	469.9	470.1	471.1	472.0	473.0	474.0	474.5
157.5°	481.9	481.3	480.7	480.1	479.5	479.5	480.2	480.9	481.6	482.2	482.8
160°	487.2	486.7	486.3	485.8	485.3	485.3	485.8	486.3	486.7	487.2	487.8
162.5°	492.0	491.5	490.9	490.5	490.0	490.0	490.3	490.8	491.2	491.6	492.2
165°	498.3	497.8	497.3	496.8	496.3	496.2	496.5	496.7	497.0	497.1	497.7
167.5°	503.0	502.5	502.0	501.5	501.0	500.9	501.1	501.4	501.6	501.8	502.4
170°	505.7	505.1	504.6	504.2	503.7	503.5	503.7	503.9	504.0	504.2	504.7
172.5°	507.4	507.0	506.4	505.9	505.4	505.3	505.4	505.6	505.8	505.9	506.5
175°	509.7	509.1	508.5	508.0	507.4	507.2	507.4	507.6	507.6	507.8	508.4
177.5°	510.1	509.6	509.1	508.7	508.2	508.0	508.1	508.2	508.2	508.2	508.8
180°	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6



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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°	8.5	8.4	8.3	8.3	8.3	8.4	8.4	8.4
90°	8.2	8.6	9.0	9.3	9.5	9.6	9.8	9.9
92.5°	9.0	9.2	9.4	9.6	9.6	9.7	9.8	9.9
95°	15.2	15.6	16.0	16.2	16.1	16.0	15.9	15.8
97.5°	19.9	20.2	20.5	20.8	20.8	20.9	21.0	21.1
100°	22.3	22.9	23.6	24.0	24.2	24.4	24.5	24.6
102.5°	23.2	24.1	25.0	25.5	25.7	26.0	26.2	26.4
105°	24.3	25.1	26.1	26.7	26.9	27.3	27.6	28.0
107.5°	29.6	28.7	27.7	27.5	27.8	28.2	28.4	28.8
110°	48.0	39.9	31.7	27.7	28.1	28.4	28.8	29.1





TEST NUMBER: P331827-935

CATALOG NUMBER: S122RDIW-S865D435U935-4F0-1E-UDD-F

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	102.8	72.9	43.1	28.3	28.6	28.8	29.1	29.4
115°	151.4	113.5	75.6	53.7	47.9	41.9	36.1	30.1
117.5°	233.2	224.0	214.8	200.6	181.2	161.9	142.6	123.2
120°	271.7	272.7	273.7	268.6	257.6	246.6	235.5	224.5
122.5°	288.3	288.9	289.5	288.7	286.5	284.4	282.2	280.1
125°	312.1	312.7	313.2	313.7	313.9	314.2	314.4	314.6
127.5°	334.2	334.9	335.8	336.2	336.3	336.3	336.4	336.4
130°	348.1	349.0	349.9	350.3	350.3	350.2	350.1	350.0
132.5°	361.7	362.4	363.2	363.5	363.4	363.3	363.3	363.3
135°	381.1	381.9	382.7	383.0	382.9	382.7	382.5	382.4
137.5°	399.1	399.8	400.6	400.9	400.6	400.4	400.1	399.8
140°	410.7	411.5	412.2	412.3	411.9	411.5	411.1	410.7
142.5°	421.5	422.1	422.8	422.9	422.5	422.1	421.7	421.3
145°	436.5	437.0	437.6	437.7	437.3	436.9	436.5	436.1
147.5°	449.6	450.0	450.5	450.5	450.1	449.8	449.4	449.1
150°	457.7	458.1	458.7	458.7	458.3	457.9	457.4	457.1
152.5°	465.0	465.5	466.1	466.0	465.5	464.9	464.3	463.8
155°	475.0	475.4	476.0	475.9	475.2	474.6	473.9	473.3
157.5°	483.4	483.9	484.5	484.4	483.8	483.1	482.5	481.9
160°	488.2	488.7	489.2	489.1	488.6	488.0	487.4	486.9
162.5°	492.8	493.4	493.9	493.8	493.1	492.4	491.7	491.0
165°	498.3	498.9	499.5	499.5	498.9	498.3	497.7	497.1
167.5°	503.0	503.5	504.1	504.0	503.3	502.6	501.8	501.1
170°	505.3	505.9	506.4	506.4	505.7	504.9	504.2	503.4
172.5°	507.0	507.6	508.2	508.2	507.4	506.7	505.9	505.2
175°	509.0	509.5	510.1	510.1	509.2	508.4	507.6	506.8
177.5°	509.2	509.6	510.1	510.1	509.5	508.9	508.2	507.7
180°	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6

(END OF REPORT)