

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: P331716-935

Luminaire Tested: **SA2XXRDIP-C865D530U935-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331716-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C865D530U935-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 530 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

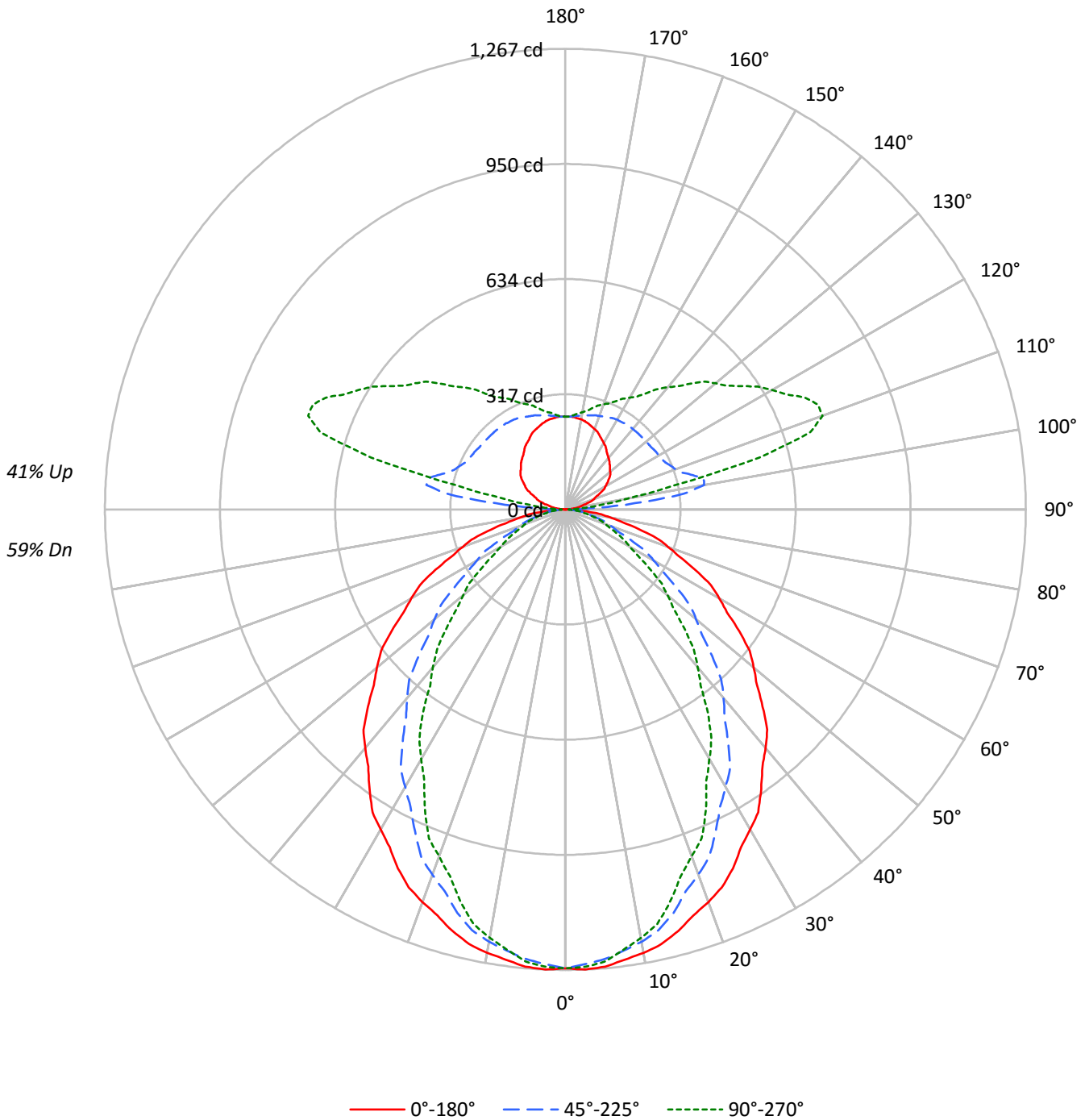
Lumens per Lamp: N/A
Luminaire Lumens: 4375.6 lumens
Efficiency: N/A
Efficacy: 89.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 48.8
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



TEST NUMBER: P331716-935
CATALOG NUMBER: SA2XXRDIP-C865D530U935-4F0-1E-UDD-F4

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	109	109	109	109	102	102	102	102	89	89	89	76	76	76	65	65	65	59
1	100	96	93	89	94	90	87	84	79	76	74	68	66	65	58	57	56	51
2	92	85	79	74	86	79	74	70	69	66	62	60	57	55	52	50	48	44
3	84	75	68	62	78	70	64	59	62	57	53	54	50	47	46	44	41	38
4	77	67	59	53	72	63	56	51	55	50	46	48	44	41	42	39	36	33
5	71	60	52	46	66	56	49	44	50	44	40	44	39	36	38	35	32	29
6	66	54	46	40	61	51	44	39	45	39	35	40	35	32	35	31	28	26
7	61	49	41	36	57	46	39	34	41	35	31	36	32	28	32	28	25	23
8	57	45	37	32	53	42	35	31	38	32	28	33	29	25	29	26	23	21
9	53	41	34	29	50	39	32	27	35	29	25	31	26	23	27	24	21	19
10	50	38	31	26	47	36	29	25	32	27	23	29	24	21	25	22	19	17

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



TEST NUMBER: P331716-935

CATALOG NUMBER: SA2XXRDIP-C865D530U935-4F0-1E-UDD-F4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.2	2.7
10°-20°	324.5	7.4
20°-30°	455.6	10.4
30°-40°	496.8	11.4
40°-50°	456.8	10.4
50°-60°	358.8	8.2
60°-70°	233.9	5.3
70°-80°	120.6	2.8
80°-90°	33.6	0.8
90°-100°	102.1	2.3
100°-110°	346.4	7.9
110°-120°	368.0	8.4
120°-130°	303.0	6.9
130°-140°	243.3	5.6
140°-150°	183.9	4.2
150°-160°	129.2	3.0
160°-170°	76.1	1.7
170°-180°	24.8	0.6
0°-30°	898.3	20.5
0°-40°	1395.1	31.9
0°-60°	2210.7	50.5
0°-90°	2598.9	59.4
90°-120°	816.6	18.7
90°-150°	1546.7	35.3
90°-180°	1777.0	40.6
0°-180°	4375.6	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	7	17	16	16	3
95°	17	42	192	73	56	18
105°	60	90	364	650	553	64
115°	106	133	304	628	728	105
125°	147	174	293	509	591	131
135°	173	206	289	428	490	133
145°	197	227	288	357	391	124
155°	224	242	279	316	328	103
165°	244	252	268	284	288	69
175°	255	255	257	260	260	24
180°	255	255	255	255	255	



TEST NUMBER: P331716-935

CATALOG NUMBER: SA2XXRDIP-C865D530U935-4F0-1E-UDD-F4

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	9.3	8.8	9.3	10.0	10.6	10.7	10.3
90°	0.5	2.0	4.0	4.9	5.9	7.4	9.8	13.3	16.2	16.7	16.2
92.5°	6.0	8.6	12.1	14.4	17.7	22.3	33.4	49.0	62.9	63.8	53.9
95°	17.2	19.1	24.0	28.5	36.3	48.1	70.7	113.4	170.4	192.5	168.4
97.5°	28.0	30.7	35.8	42.5	51.6	64.9	93.3	152.8	247.5	328.6	344.7
100°	37.8	39.3	43.7	51.6	61.4	75.2	101.2	161.1	267.1	387.9	458.6
102.5°	46.8	48.0	52.3	60.2	70.4	84.1	108.2	161.4	259.7	389.9	501.0
105°	59.9	61.9	65.3	72.7	83.4	97.2	120.3	164.0	245.0	363.9	494.5
107.5°	74.0	75.6	79.0	85.8	96.4	110.3	132.7	170.7	237.7	336.0	451.3
110°	83.4	85.4	88.4	94.8	105.0	119.3	140.9	176.2	236.2	322.6	424.2



TEST NUMBER: P331716-935

CATALOG NUMBER: SA2XXRDIP-C865D530U935-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	92.1	94.1	97.4	103.4	113.3	127.9	148.8	182.2	236.6	313.9	405.4
115°	105.6	108.1	111.0	116.8	126.7	139.9	161.1	191.0	238.7	304.4	382.0
117.5°	119.5	121.5	124.4	129.7	139.1	152.8	172.4	200.4	242.2	299.8	367.3
120°	128.1	130.1	133.0	137.5	147.3	161.1	180.2	206.7	244.5	297.0	359.5
122.5°	136.4	138.0	140.9	145.8	155.6	169.7	187.7	212.2	247.3	295.5	352.8
125°	147.3	148.8	151.7	157.6	167.5	181.2	198.9	220.9	251.4	292.7	343.2
127.5°	155.9	157.9	162.0	168.5	178.0	192.1	209.3	229.1	255.6	291.0	334.4
130°	161.1	163.0	167.9	174.8	184.6	198.4	215.6	234.2	258.7	290.2	328.5
132.5°	165.7	168.2	173.4	180.7	190.9	204.7	221.0	239.4	261.9	289.8	323.7
135°	172.8	174.8	180.7	188.0	199.3	213.1	228.9	246.0	265.6	289.2	317.2
137.5°	179.5	181.8	187.8	195.6	206.8	219.6	235.1	251.1	269.0	289.1	312.5
140°	184.6	186.6	192.5	200.4	211.1	223.9	238.7	253.8	270.5	288.7	309.9
142.5°	189.8	191.3	196.8	204.7	215.1	227.0	241.4	256.2	271.7	288.7	307.1
145°	197.4	199.3	204.2	211.6	221.4	232.2	245.5	259.2	273.0	287.7	303.4
147.5°	205.6	207.1	211.8	218.6	226.8	236.3	248.8	261.0	273.4	285.9	299.7
150°	211.1	212.6	216.5	222.9	230.3	239.1	250.4	261.7	273.0	284.8	296.6
152.5°	216.6	217.3	221.3	226.9	233.8	241.9	252.0	262.1	272.2	282.8	293.9
155°	224.4	224.9	227.8	233.2	238.7	246.0	254.3	262.7	271.0	279.4	288.7
157.5°	230.8	231.4	233.8	238.4	242.8	248.9	256.0	262.7	268.8	275.9	283.9
160°	235.2	235.7	237.6	241.6	245.5	250.9	256.8	262.7	267.6	273.5	280.3
162.5°	239.5	239.2	241.2	244.4	247.9	252.1	257.2	262.3	266.4	271.6	277.2
165°	244.5	244.0	245.0	248.0	250.4	253.4	257.8	261.2	264.2	267.6	272.0
167.5°	248.7	248.1	248.9	250.8	252.6	254.4	257.7	260.5	261.9	264.2	266.9
170°	251.4	250.4	250.9	252.4	253.4	254.9	257.3	259.8	260.7	262.2	264.2
172.5°	253.0	252.4	252.1	253.6	254.2	255.2	256.9	258.6	259.2	259.8	261.4
175°	254.9	254.3	253.8	254.9	254.9	255.3	256.3	257.3	256.8	257.3	257.8
177.5°	255.7	254.9	254.5	255.3	255.3	255.3	255.7	256.5	255.7	255.3	255.7
180°	255.3	255.3	255.3	255.3	255.3	255.3	255.3	255.3	255.3	255.3	255.3



TEST NUMBER: P331716-935

CATALOG NUMBER: SA2XXRDIP-C865D530U935-4F0-1E-UDD-F4

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°	10.1	9.6	9.6	9.6	9.6	9.6	9.6	9.6
90°	15.7	14.7	15.7	16.2	16.2	16.2	16.2	16.2
92.5°	42.8	36.8	32.6	29.5	29.2	27.6	28.0	27.2
95°	128.6	98.7	78.1	67.2	60.9	57.0	55.4	56.0
97.5°	300.2	245.6	192.5	157.0	133.5	121.5	114.3	110.2
100°	448.3	387.4	320.1	260.7	220.0	198.9	184.6	175.8
102.5°	545.4	531.6	482.4	419.4	375.1	339.1	321.3	309.4
105°	596.6	652.0	658.5	642.2	611.8	581.3	560.3	553.4
107.5°	559.6	643.3	694.3	718.1	721.9	720.2	716.0	706.9
110°	527.9	615.7	678.6	718.8	739.9	749.3	753.7	753.2



TEST NUMBER: P331716-935

CATALOG NUMBER: SA2XXRDIP-C865D530U935-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	498.8	583.2	650.3	696.5	725.8	741.4	749.8	752.4
115°	463.0	538.6	603.0	653.6	688.4	711.0	723.8	728.1
117.5°	436.1	502.5	560.9	608.3	643.9	667.7	681.1	684.8
120°	422.8	483.6	535.7	580.4	614.8	637.8	652.0	656.9
122.5°	412.2	468.0	517.2	557.6	588.4	611.1	623.8	627.9
125°	396.7	447.3	490.5	527.4	555.9	574.5	586.8	590.7
127.5°	381.5	427.3	468.0	502.0	526.8	544.3	554.9	558.1
130°	371.7	414.0	452.7	485.1	509.2	525.9	535.7	539.6
132.5°	362.3	401.4	437.0	467.4	491.1	507.8	516.9	520.4
135°	349.1	381.5	414.0	441.4	462.5	478.7	487.6	489.6
137.5°	338.6	365.8	391.4	415.4	434.6	448.6	456.3	459.3
140°	331.9	355.5	378.1	399.7	415.4	428.2	435.5	438.5
142.5°	326.4	346.5	365.9	384.0	398.9	410.5	417.1	417.7
145°	318.7	334.8	350.1	364.4	376.1	384.4	389.3	390.8
147.5°	312.7	325.5	337.3	347.8	357.5	364.1	367.5	368.3
150°	308.3	319.2	329.5	338.3	345.7	351.5	354.5	355.0
152.5°	304.0	314.1	322.8	330.5	336.2	341.4	343.5	343.6
155°	298.1	305.9	313.2	318.7	324.1	327.5	329.5	328.5
157.5°	291.1	297.6	303.8	308.1	311.9	314.8	315.6	315.6
160°	286.7	292.1	297.6	301.0	304.4	306.9	307.4	307.4
162.5°	282.4	287.1	291.7	294.3	297.7	299.5	299.9	299.5
165°	276.0	279.4	282.8	284.8	286.7	288.7	288.7	288.3
167.5°	269.8	272.4	274.7	276.6	277.4	278.5	278.4	277.8
170°	266.7	268.1	270.1	271.0	271.6	273.0	272.5	271.6
172.5°	263.1	264.2	265.7	266.3	266.8	267.5	267.0	266.4
175°	259.2	259.8	260.3	260.7	260.7	261.2	260.7	259.8
177.5°	256.5	256.5	256.9	256.9	256.9	256.9	256.5	255.7
180°	255.3	255.3	255.3	255.3	255.3	255.3	255.3	255.3

(END OF REPORT)