

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: P331407-935

Luminaire Tested: **SA2XXDIP-C865D925U935-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331407-935  
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: SA2XXDIP-C865D925U935-4F0-1E-UDD-D4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 925 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6120.9 lumens  
Efficiency: N/A  
Efficacy: 101.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: General Diffuse

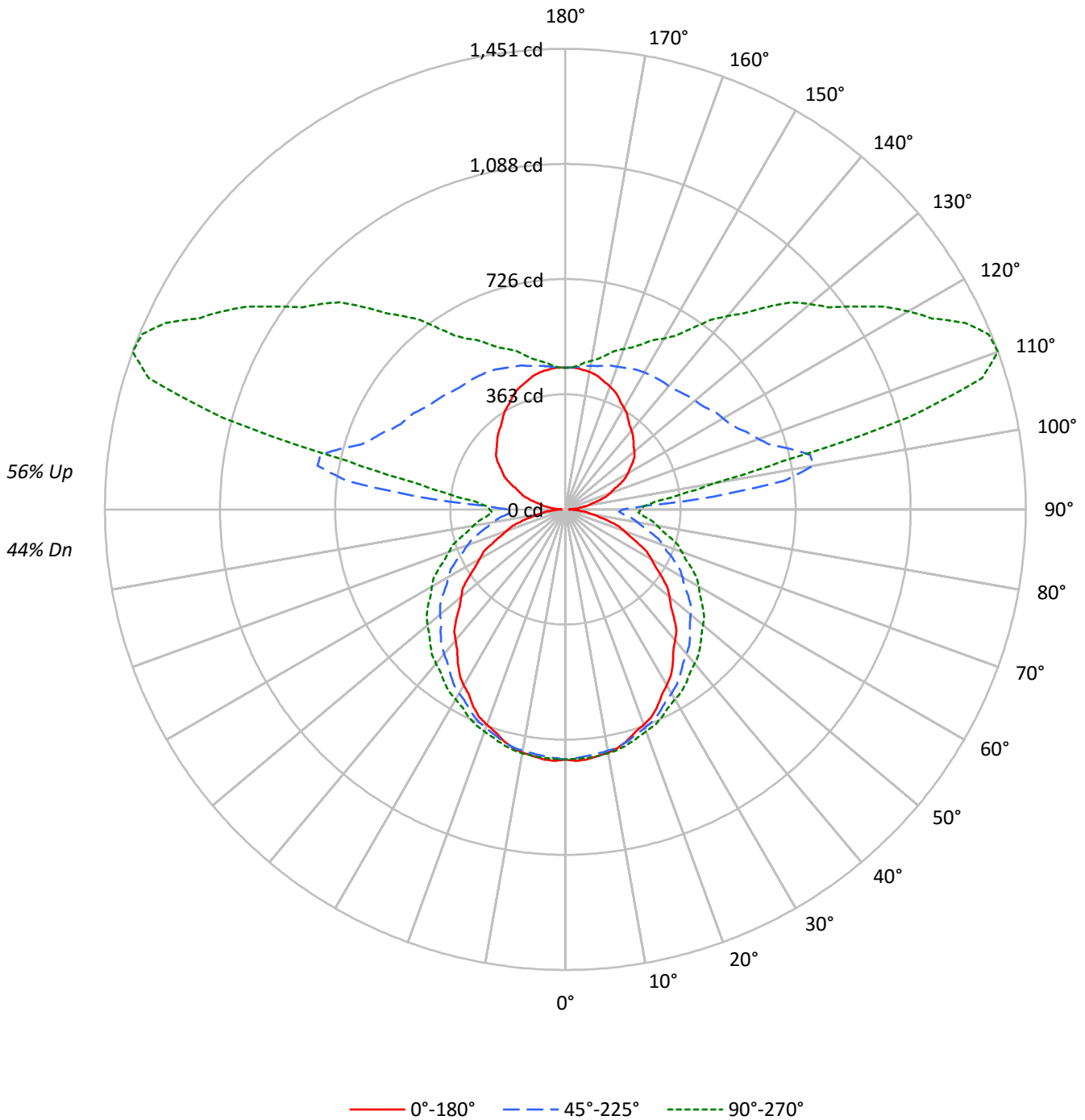
Input Watts (W): 60.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331407-935

CATALOG NUMBER: SA2XXDIP-C865D925U935-4F0-1E-UDD-D4

### 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	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	44				
1	95	90	86	82	87	82	79	75	68	65	63	55	53	51	42	41	40	34				
2	86	78	71	66	78	71	66	61	59	55	51	47	44	42	37	34	33	28				
3	78	68	60	54	71	62	56	50	51	46	42	41	38	35	32	29	27	23				
4	71	60	52	45	65	55	48	42	45	40	36	37	32	29	28	25	23	19				
5	65	53	45	39	59	49	41	36	40	35	30	33	28	25	25	22	20	16				
6	60	48	39	33	54	44	36	31	36	31	26	29	25	22	23	20	17	14				
7	55	43	35	29	50	39	32	27	33	27	23	27	22	19	21	18	15	12				
8	51	39	31	25	47	36	29	24	30	24	20	24	20	17	19	16	14	11				
9	48	35	28	22	43	32	26	21	27	22	18	22	18	15	18	14	12	10				
10	44	32	25	20	41	30	23	19	25	20	16	21	16	14	16	13	11	9				

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

	0°	45°	90°
0°	12728	12728	12728
5°	12790	12252	12205
10°	12710	11890	11756
15°	12535	11506	11284
20°	12312	11097	10828
25°	12095	10701	10415
30°	11786	10293	10000
35°	11474	9900	9708
40°	11147	9566	9415
45°	10835	9267	9165
50°	10500	8995	8920
55°	10150	8703	8668
60°	9721	8403	8403
65°	9278	8047	8088
70°	8774	7666	7748
75°	8132	7293	7435
80°	7126	6912	7117
85°	6164	6582	6872



TEST NUMBER: P331407-935

CATALOG NUMBER: SA2XXDIP-C865D925U935-4F0-1E-UDD-D4

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	74.7	1.2
10°-20°	214.2	3.5
20°-30°	324.6	5.3
30°-40°	395.4	6.5
40°-50°	425.3	6.9
50°-60°	413.1	6.7
60°-70°	360.7	5.9
70°-80°	277.7	4.5
80°-90°	190.4	3.1
90°-100°	307.0	5.0
100°-110°	700.0	11.4
110°-120°	706.0	11.5
120°-130°	564.8	9.2
130°-140°	440.3	7.2
140°-150°	324.3	5.3
150°-160°	226.1	3.7
160°-170°	133.1	2.2
170°-180°	43.3	0.7
0°-30°	613.5	10.0
0°-40°	1008.9	16.5
0°-60°	1847.2	30.2
0°-90°	2675.9	43.7
90°-120°	1713.1	28.0
90°-150°	3042.4	49.7
90°-180°	3445.0	56.3
0°-180°	6120.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	788	788	788	788	788	
5°	791	787	780	787	786	75
15°	754	756	756	766	766	212
25°	686	694	704	717	721	315
35°	591	610	632	656	665	369
45°	484	516	555	589	602	374
55°	371	413	472	512	528	332
65°	254	310	377	422	439	252
75°	140	205	278	325	342	149
85°	41	112	185	231	249	44
90°	12	90	180	223	239	9
95°	39	138	468	300	286	39
105°	111	198	735	1275	1119	118
115°	189	253	601	1201	1390	187
125°	260	309	551	959	1114	231
135°	304	363	519	784	902	235
145°	345	397	504	632	696	217
155°	393	424	489	553	575	181
165°	428	441	468	497	504	121
175°	446	446	450	456	455	42
180°	447	447	447	447	447	



TEST NUMBER: P331407-935

CATALOG NUMBER: SA2XXDIP-C865D925U935-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3
2.5°	792.9	792.3	791.7	791.1	790.5	789.5	788.0	786.6	785.1	783.8	784.8
5°	790.6	789.9	789.1	788.3	787.6	786.4	784.9	783.3	781.9	780.3	781.9
7.5°	783.5	783.0	782.5	782.0	781.5	780.7	779.5	778.3	777.1	776.0	777.8
10°	778.1	777.6	777.1	776.5	776.0	775.4	774.6	773.9	773.1	772.3	774.4
12.5°	768.9	769.0	769.1	769.2	769.3	769.0	768.5	767.9	767.4	766.8	768.9
15°	754.1	754.6	755.1	755.6	756.0	756.3	756.3	756.3	756.3	756.3	758.6
17.5°	734.9	735.9	737.0	738.0	739.1	740.0	740.9	741.7	742.5	743.3	745.7
20°	722.0	723.3	724.6	725.9	727.1	728.3	729.3	730.3	731.3	732.4	735.1
22.5°	708.3	709.8	711.3	712.7	714.2	715.7	717.1	718.5	720.0	721.3	724.2
25°	685.5	687.3	689.1	690.9	692.6	694.7	696.9	699.2	701.5	703.8	706.8
27.5°	658.1	661.0	663.8	666.8	669.7	672.4	675.1	677.9	680.5	683.2	687.1
30°	639.8	643.1	646.4	649.7	653.0	656.3	659.6	662.9	666.2	669.5	673.6
32.5°	619.7	623.4	627.1	630.9	634.6	638.3	642.2	646.2	650.1	653.9	658.7
35°	590.6	595.0	599.3	603.6	608.0	612.5	617.3	622.2	627.0	631.8	637.4
37.5°	559.1	564.1	569.1	574.0	579.0	584.6	590.9	597.2	603.4	609.7	615.9
40°	538.1	543.7	549.3	554.9	560.4	566.7	573.5	580.4	587.3	594.1	600.7
42.5°	518.0	523.6	529.2	534.8	540.4	547.1	554.9	562.8	570.7	578.6	585.7
45°	484.4	491.3	498.1	505.0	511.9	519.7	528.6	537.5	546.4	555.3	563.1
47.5°	451.3	458.7	466.2	473.7	481.1	490.1	500.5	510.9	521.3	531.8	539.9
50°	428.4	436.3	444.2	452.0	459.9	469.6	481.0	492.4	503.9	515.3	523.9
52.5°	406.5	414.7	423.1	431.4	439.6	449.8	461.8	473.8	485.9	497.9	506.7
55°	371.3	380.5	389.6	398.7	407.9	419.0	432.2	445.5	458.7	471.8	481.0
57.5°	336.6	346.9	357.2	367.5	377.8	389.7	403.1	416.6	430.1	443.5	453.4
60°	311.9	322.8	333.7	344.7	355.6	368.2	382.7	397.2	411.6	426.2	435.8
62.5°	290.0	301.3	312.6	323.9	335.3	348.2	362.7	377.1	391.6	406.0	416.3
65°	253.7	266.0	278.5	290.9	303.4	317.1	332.1	347.1	362.1	377.0	387.4
67.5°	220.2	233.2	246.2	259.2	272.2	286.5	301.8	317.1	332.4	347.8	358.3
70°	196.5	209.7	222.9	236.1	249.3	263.8	279.6	295.2	311.0	326.7	337.7
72.5°	174.6	188.2	201.8	215.4	229.0	243.7	259.8	275.7	291.6	307.5	318.3
75°	140.5	154.7	168.9	183.2	197.4	212.7	228.9	245.1	261.4	277.6	288.5
77.5°	107.6	122.5	137.4	152.2	167.1	182.8	199.3	215.9	232.3	248.8	259.7
80°	85.7	101.2	116.7	132.2	147.7	163.6	180.1	196.7	213.1	229.6	240.3
82.5°	67.4	82.7	98.0	113.2	128.5	144.6	161.3	178.0	194.7	211.4	222.1
85°	41.2	56.9	72.6	88.3	104.1	120.1	136.3	152.6	168.8	185.1	195.8
87.5°	22.6	38.2	54.1	69.5	85.0	101.2	118.3	135.8	153.0	169.4	179.6
90°	12.3	29.6	47.8	64.2	80.7	98.7	119.2	141.5	162.9	180.0	189.3
92.5°	21.0	39.3	59.2	76.7	96.3	119.1	154.1	197.1	237.1	254.3	246.8
95°	39.2	54.6	75.1	94.8	120.5	154.6	209.4	299.5	414.3	468.2	435.8
97.5°	57.0	72.2	92.0	114.3	140.7	176.7	241.0	359.7	540.0	696.6	734.2
100°	74.1	86.1	103.2	126.4	153.0	188.8	248.6	367.6	567.5	793.1	926.3
102.5°	89.0	99.5	115.9	138.2	164.6	199.9	255.8	362.7	548.5	790.1	993.9
105°	110.6	121.3	134.7	155.0	181.2	215.6	269.1	358.9	513.8	735.0	972.5
107.5°	135.1	143.7	155.4	173.1	197.8	231.4	283.1	362.5	492.3	676.8	887.3
110°	150.7	159.2	169.4	185.6	208.8	242.5	292.7	367.0	484.3	648.0	834.0



TEST NUMBER: P331407-935

CATALOG NUMBER: SA2XXDIP-C865D925U935-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	165.7	173.5	183.6	198.4	220.0	253.7	301.9	372.1	479.1	626.5	794.5
115°	189.3	196.4	204.3	217.5	237.5	267.8	316.2	380.0	474.8	601.3	744.7
117.5°	212.6	217.8	224.8	235.7	254.1	284.4	329.1	388.8	472.4	583.8	709.5
120°	227.7	232.1	238.3	247.1	265.3	294.9	338.6	395.1	471.5	573.6	689.8
122.5°	242.1	245.3	250.9	259.7	277.2	307.0	348.0	400.5	471.4	565.3	672.4
125°	260.1	262.7	267.8	278.1	295.3	323.4	362.5	409.3	470.7	551.0	646.4
127.5°	275.2	278.4	285.3	296.4	312.7	340.6	377.2	418.4	471.4	539.8	622.1
130°	284.1	287.3	295.7	307.5	324.3	350.9	386.3	424.4	472.7	533.0	606.1
132.5°	292.4	296.3	305.3	317.7	335.4	361.4	394.2	430.2	473.9	526.8	592.2
135°	303.6	307.0	317.4	330.3	350.0	375.3	405.4	438.0	474.9	518.7	573.0
137.5°	315.3	319.3	329.7	343.4	362.9	385.7	414.1	443.2	475.5	511.9	557.7
140°	324.3	327.4	337.5	350.9	369.6	392.1	418.4	445.6	475.3	507.6	548.5
142.5°	333.2	335.7	345.0	358.5	376.5	397.4	422.6	448.7	475.9	505.8	541.1
145°	345.4	348.9	357.5	370.4	387.5	406.5	429.6	453.7	477.8	503.5	532.6
147.5°	359.9	362.5	370.7	382.5	396.8	413.7	435.5	456.7	478.5	500.5	524.7
150°	369.5	372.0	378.9	390.1	403.0	418.4	438.2	458.0	477.8	498.4	519.0
152.5°	379.1	380.3	387.2	397.0	409.2	423.3	441.0	458.7	476.4	495.0	514.2
155°	392.7	393.6	398.7	408.2	417.6	430.5	445.1	459.7	474.3	489.0	505.2
157.5°	404.1	404.9	409.1	417.2	424.8	435.7	448.1	459.7	470.4	482.8	496.9
160°	411.6	412.5	415.9	422.8	429.6	439.1	449.4	459.7	468.3	478.6	490.7
162.5°	419.1	418.6	422.1	427.6	433.8	441.2	450.1	459.0	466.2	475.2	485.2
165°	427.9	427.1	428.8	433.9	438.2	443.4	451.2	457.2	462.3	468.3	476.0
167.5°	435.1	434.1	435.7	438.9	442.0	445.3	451.0	456.0	458.3	462.3	467.1
170°	440.0	438.2	439.1	441.7	443.4	446.0	450.3	454.6	456.3	458.8	462.3
172.5°	442.7	441.7	441.2	443.8	444.8	446.7	449.6	452.5	453.6	454.8	457.5
175°	446.0	445.1	444.3	446.0	446.0	446.9	448.6	450.3	449.4	450.3	451.2
177.5°	447.5	446.2	445.5	446.9	446.9	446.9	447.5	448.9	447.5	446.9	447.5
180°	446.9	446.9	446.9	446.9	446.9	446.9	446.9	446.9	446.9	446.9	446.9



TEST NUMBER: P331407-935

CATALOG NUMBER: SA2XXDIP-C865D925U935-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3
2.5°	785.7	786.8	787.8	788.2	787.7	787.3	786.9	786.5
5°	783.3	784.9	786.4	787.0	786.8	786.5	786.3	786.0
7.5°	779.6	781.4	783.3	784.1	783.9	783.6	783.3	783.1
10°	776.4	778.4	780.5	781.4	781.1	780.8	780.6	780.3
12.5°	770.9	772.9	775.0	775.8	775.6	775.3	775.1	774.8
15°	760.9	763.2	765.5	766.5	766.2	765.9	765.7	765.5
17.5°	748.1	750.4	752.9	754.1	754.1	754.1	754.1	754.1
20°	738.0	740.7	743.5	744.9	744.9	744.9	744.9	744.9
22.5°	726.9	729.8	732.5	734.2	734.5	734.9	735.4	735.8
25°	709.9	712.9	716.0	717.9	718.6	719.4	720.1	720.9
27.5°	691.0	694.8	698.6	700.9	701.5	702.0	702.6	703.1
30°	677.6	681.7	685.8	688.2	688.9	689.7	690.4	691.2
32.5°	663.3	668.0	672.6	675.7	677.0	678.4	679.8	681.1
35°	643.0	648.6	654.2	657.8	659.6	661.4	663.1	665.0
37.5°	622.0	628.2	634.4	638.4	640.3	642.2	644.1	646.0
40°	607.3	613.9	620.5	624.9	627.2	629.5	631.8	634.1
42.5°	593.0	600.2	607.4	612.2	614.4	616.7	619.0	621.3
45°	571.0	578.9	586.8	591.9	594.5	597.0	599.6	602.1
47.5°	548.2	556.4	564.6	570.2	572.9	575.8	578.5	581.3
50°	532.5	541.1	549.8	555.5	558.3	561.1	563.9	566.7
52.5°	515.6	524.4	533.2	539.2	542.2	545.2	548.1	551.1
55°	490.2	499.3	508.4	514.6	517.9	521.2	524.5	527.8
57.5°	463.2	473.0	482.9	489.6	492.8	496.2	499.6	502.9
60°	445.5	455.1	464.8	471.3	474.9	478.5	482.0	485.6
62.5°	426.5	436.8	447.0	453.9	457.2	460.5	463.9	467.3
65°	397.9	408.3	418.7	425.5	428.8	432.1	435.4	438.7
67.5°	368.8	379.3	389.9	396.8	400.3	403.7	407.2	410.6
70°	348.6	359.5	370.4	377.4	380.5	383.5	386.6	389.6
72.5°	329.0	339.7	350.4	357.6	361.3	364.9	368.6	372.2
75°	299.5	310.4	321.3	328.4	331.7	335.0	338.3	341.6
77.5°	270.6	281.5	292.3	299.5	303.1	306.6	310.2	313.7
80°	251.0	261.7	272.3	279.4	282.9	286.5	290.1	293.6
82.5°	232.7	243.3	254.0	261.1	264.4	267.7	271.0	274.4
85°	206.4	217.1	227.7	234.9	238.4	241.9	245.5	249.1
87.5°	189.9	199.8	210.5	217.5	220.8	224.0	227.3	230.5
90°	198.6	207.1	219.0	226.4	229.5	232.5	235.6	238.6
92.5°	237.4	236.7	239.4	240.6	243.0	243.3	247.0	248.7
95°	375.8	333.0	306.6	294.0	285.9	282.1	282.6	286.5
97.5°	665.7	579.5	496.0	440.1	402.1	383.9	374.4	370.1
100°	917.6	820.4	712.1	614.2	545.7	511.5	489.4	476.7
102.5°	1080.6	1065.7	988.8	884.6	809.9	749.6	721.3	703.2
105°	1160.1	1266.1	1286.2	1263.6	1213.1	1162.6	1128.5	1119.2
107.5°	1085.4	1240.2	1338.1	1385.3	1394.8	1394.6	1390.1	1376.9
110°	1023.4	1185.3	1303.5	1379.4	1419.1	1438.2	1448.8	1450.7





TEST NUMBER: P331407-935

CATALOG NUMBER: SA2XXDIP-C865D925U935-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	966.1	1121.9	1247.6	1333.8	1387.9	1418.1	1435.5	1442.9
115°	894.1	1034.1	1154.3	1247.9	1311.7	1354.1	1379.2	1389.7
117.5°	837.4	961.1	1070.7	1158.8	1223.6	1268.0	1294.1	1303.2
120°	807.8	921.4	1019.6	1102.8	1165.7	1208.9	1236.7	1248.0
122.5°	783.3	887.9	981.0	1056.3	1112.7	1154.8	1179.3	1188.9
125°	746.8	842.2	924.7	993.8	1045.9	1080.8	1104.6	1113.7
127.5°	710.9	797.3	874.9	938.7	984.3	1017.2	1037.9	1045.7
130°	687.9	767.8	841.8	902.6	946.7	977.9	997.1	1006.1
132.5°	665.5	739.7	808.0	865.2	908.7	940.0	957.8	966.0
135°	634.2	696.2	758.3	810.1	849.0	879.4	897.0	902.4
137.5°	607.9	660.0	709.6	754.8	790.2	816.3	831.6	838.5
140°	591.3	636.6	680.2	720.8	749.8	773.7	788.1	794.8
142.5°	578.2	616.6	653.8	687.7	715.1	736.8	749.6	751.9
145°	560.8	590.6	618.8	645.1	667.0	682.9	692.8	696.5
147.5°	547.6	570.2	591.2	609.8	627.4	639.7	646.2	648.3
150°	539.7	558.5	576.6	592.0	604.9	615.3	620.4	621.3
152.5°	532.1	549.6	564.9	578.3	588.4	597.4	601.2	601.3
155°	521.6	535.4	548.2	557.7	567.1	573.2	576.6	574.9
157.5°	509.4	520.9	531.8	539.2	545.8	550.8	552.3	552.3
160°	501.8	511.3	520.7	526.8	532.8	537.1	538.0	538.0
162.5°	494.3	502.3	510.4	515.1	521.1	524.0	524.9	524.2
165°	482.9	489.0	495.0	498.4	501.8	505.2	505.2	504.4
167.5°	472.1	476.7	480.9	484.0	485.5	487.4	487.2	486.2
170°	466.6	469.2	472.6	474.3	475.2	477.8	476.9	475.2
172.5°	460.4	462.3	465.0	466.1	466.9	468.1	467.3	466.2
175°	453.7	454.6	455.5	456.3	456.3	457.2	456.3	454.6
177.5°	448.9	448.9	449.6	449.6	449.6	449.6	448.9	447.5
180°	446.9	446.9	446.9	446.9	446.9	446.9	446.9	446.9

(END OF REPORT)