

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: P332516-927

Luminaire Tested: **SA4XXDIP-C350D810U927-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332516-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXDIP-C350D810U927-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

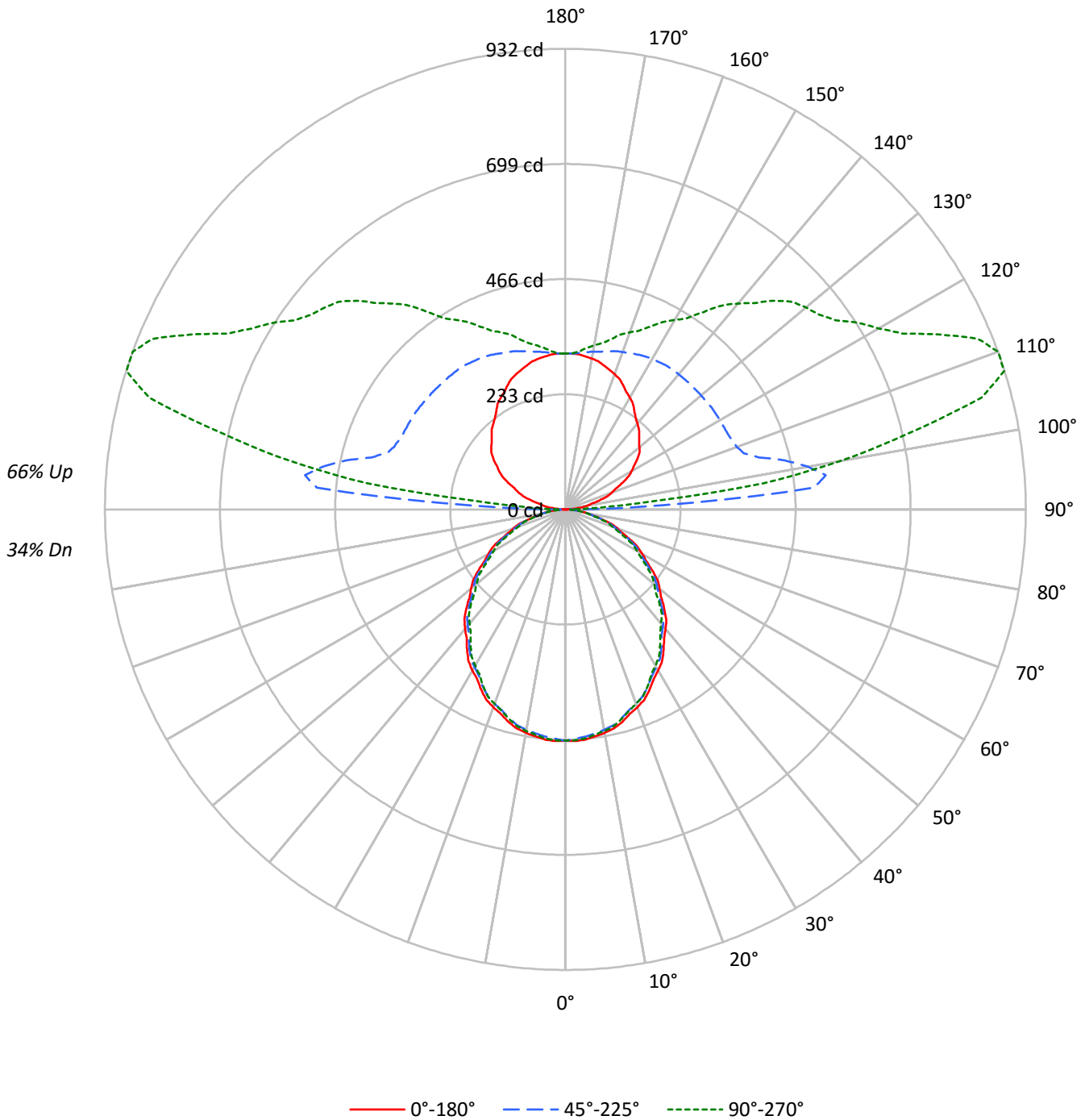
Lumens per Lamp: N/A
Luminaire Lumens: 3495.6 lumens
Efficiency: N/A
Efficacy: 112.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 31.2
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



TEST NUMBER: P332516-927
CATALOG NUMBER: SA4XXDIP-C350D810U927-4F0-1E-UDD-F4

Luminous Intensity Polar Plot





TEST NUMBER: P332516-927

CATALOG NUMBER: SA4XXDIP-C350D810U927-4F0-1E-UDD-F4

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	103	103	103	103	93	93	93	93	75	75	75	58	58	58	42	42	42	34				34
1	94	90	86	83	85	81	78	75	65	63	61	50	49	48	37	36	35	29				29
2	86	79	73	68	77	71	66	62	57	54	51	44	42	40	32	31	30	24				24
3	78	69	62	56	70	63	56	52	50	46	42	39	36	34	29	27	25	20				20
4	71	61	53	47	64	55	49	44	45	40	36	35	31	29	26	23	22	18				18
5	66	54	46	40	59	49	42	37	40	35	31	31	28	25	23	21	19	15				15
6	60	49	41	35	54	44	37	32	36	31	27	28	25	22	21	18	17	13				13
7	56	44	36	31	50	40	33	28	32	27	24	26	22	19	19	17	15	12				12
8	52	40	32	27	46	36	29	25	30	24	21	23	20	17	18	15	13	11				11
9	48	36	29	24	43	33	26	22	27	22	19	21	18	15	16	14	12	10				10
10	45	33	26	21	40	30	24	20	25	20	17	20	16	14	15	13	11	9				9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3777	3777	3777
5°	3789	3743	3771
10°	3765	3713	3731
15°	3719	3661	3670
20°	3660	3594	3598
25°	3591	3520	3510
30°	3506	3432	3402
35°	3418	3341	3297
40°	3327	3236	3177
45°	3232	3134	3075
50°	3127	3042	2948
55°	3013	2923	2829
60°	2900	2792	2706
65°	2772	2665	2558
70°	2629	2497	2398
75°	2408	2293	2233
80°	2143	2060	2004
85°	1880	1806	1769



TEST NUMBER: P332516-927

CATALOG NUMBER: SA4XXDIP-C350D810U927-4F0-1E-UDD-F4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	44.1	1.3
10°-20°	124.2	3.6
20°-30°	182.8	5.2
30°-40°	212.5	6.1
40°-50°	212.5	6.1
50°-60°	185.9	5.3
60°-70°	138.0	3.9
70°-80°	78.4	2.2
80°-90°	24.4	0.7
90°-100°	227.7	6.5
100°-110°	474.0	13.6
110°-120°	424.5	12.1
120°-130°	357.1	10.2
130°-140°	297.7	8.5
140°-150°	227.5	6.5
150°-160°	159.9	4.6
160°-170°	94.0	2.7
170°-180°	30.6	0.9
0°-30°	351.0	10.0
0°-40°	563.5	16.1
0°-60°	961.8	27.5
0°-90°	1202.6	34.4
90°-120°	1126.2	32.2
90°-150°	2008.5	57.5
90°-180°	2293.0	65.6
0°-180°	3495.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	468	468	468	468	468	
5°	468	466	462	466	465	44
15°	445	443	438	440	439	125
25°	403	400	395	396	394	185
35°	347	344	339	336	334	217
45°	283	280	274	270	269	218
55°	214	213	208	203	201	192
65°	145	143	140	136	134	144
75°	77	75	74	72	72	82
85°	20	20	20	20	19	22
90°	1	5	11	12	13	2
95°	20	64	505	250	151	23
105°	72	105	406	875	872	77
115°	128	160	362	696	837	127
125°	178	211	360	592	668	158
135°	211	251	357	526	597	163
145°	243	279	356	444	488	153
155°	277	299	346	392	408	128
165°	302	311	331	351	356	85
175°	315	315	318	322	321	30
180°	315	315	315	315	315	



TEST NUMBER: P332516-927

CATALOG NUMBER: SA4XXDIP-C350D810U927-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9
2.5°	469.1	469.0	468.7	468.6	468.3	467.9	467.1	466.4	465.7	464.9	465.6
5°	467.5	467.2	466.9	466.6	466.3	465.6	464.7	463.8	462.9	461.9	462.9
7.5°	463.3	462.9	462.6	462.2	461.9	461.2	460.2	459.2	458.2	457.2	457.9
10°	459.3	459.0	458.7	458.4	458.0	457.3	456.2	455.1	454.1	453.0	453.6
12.5°	454.2	453.9	453.6	453.2	452.9	452.2	451.0	449.9	448.7	447.6	448.3
15°	445.0	444.7	444.4	444.1	443.8	443.0	441.7	440.5	439.2	438.0	438.5
17.5°	434.0	433.6	433.2	432.8	432.4	431.6	430.4	429.2	428.0	426.8	427.1
20°	426.0	425.6	425.2	424.7	424.3	423.5	422.2	421.0	419.7	418.4	418.7
22.5°	417.2	416.7	416.1	415.6	415.0	414.2	412.9	411.7	410.4	409.2	409.6
25°	403.1	402.5	402.0	401.3	400.8	399.9	398.7	397.5	396.4	395.2	395.3
27.5°	386.9	386.3	385.7	385.1	384.5	383.7	382.5	381.5	380.4	379.3	379.1
30°	376.1	375.4	374.8	374.1	373.4	372.6	371.5	370.3	369.3	368.2	367.9
32.5°	364.7	364.1	363.5	362.9	362.3	361.4	360.3	359.1	358.0	356.8	356.4
35°	346.8	346.3	345.7	345.1	344.5	343.6	342.5	341.3	340.2	339.0	338.4
37.5°	328.0	327.5	326.9	326.5	325.9	325.0	323.8	322.5	321.2	320.0	319.3
40°	315.7	315.1	314.4	313.7	313.1	312.1	310.9	309.6	308.3	307.1	306.3
42.5°	302.5	302.1	301.7	301.3	301.0	300.0	298.7	297.2	295.9	294.5	293.5
45°	283.1	282.5	281.9	281.4	280.7	279.8	278.5	277.1	275.8	274.5	273.5
47.5°	262.8	262.4	262.0	261.6	261.2	260.4	259.1	257.9	256.7	255.4	254.4
50°	249.0	248.7	248.3	248.0	247.6	246.9	245.7	244.5	243.4	242.2	241.1
52.5°	235.5	235.0	234.6	234.2	233.9	233.1	231.8	230.6	229.3	228.1	227.1
55°	214.1	213.9	213.6	213.3	213.1	212.4	211.2	210.1	208.9	207.7	206.8
57.5°	193.7	193.5	193.1	192.9	192.6	191.9	190.7	189.6	188.4	187.3	186.3
60°	179.6	179.2	178.8	178.3	177.9	177.2	176.1	175.0	174.0	172.9	172.1
62.5°	165.8	165.5	165.1	164.8	164.4	163.7	162.5	161.4	160.2	159.1	158.4
65°	145.1	144.7	144.3	143.9	143.5	142.8	142.0	141.2	140.3	139.5	138.6
67.5°	124.3	123.9	123.5	123.1	122.7	122.2	121.4	120.6	119.8	118.9	118.1
70°	111.4	110.7	110.2	109.6	109.0	108.4	107.7	107.1	106.4	105.8	105.0
72.5°	97.6	97.0	96.4	95.9	95.2	94.7	94.1	93.6	93.1	92.5	92.0
75°	77.2	76.8	76.4	76.0	75.6	75.2	74.8	74.3	73.9	73.5	73.2
77.5°	57.8	57.7	57.4	57.3	57.1	56.8	56.5	56.1	55.7	55.4	55.2
80°	46.1	45.9	45.6	45.4	45.2	44.9	44.8	44.6	44.4	44.3	44.0
82.5°	34.7	34.6	34.5	34.4	34.2	34.1	34.1	34.1	34.1	34.1	34.0
85°	20.3	20.3	20.3	20.3	20.3	20.2	20.0	19.8	19.6	19.5	19.5
87.5°	7.9	8.1	8.4	8.5	8.6	8.5	9.1	9.0	9.3	9.4	9.3
90°	0.6	1.8	3.7	4.4	5.0	5.0	8.6	8.6	9.9	11.2	10.5
92.5°	7.1	10.3	16.1	23.7	32.7	45.6	77.1	125.1	172.0	196.5	163.7
95°	20.4	22.3	28.5	36.5	51.4	77.4	131.3	232.9	381.0	504.9	519.1
97.5°	36.7	36.7	42.0	49.4	62.2	84.0	125.5	209.4	356.6	531.7	652.1
100°	47.1	47.1	51.4	58.9	70.6	90.5	127.0	197.0	323.4	498.0	656.6
102.5°	57.0	58.0	61.8	68.8	80.0	98.9	131.9	193.5	301.0	455.9	619.4
105°	72.5	74.3	77.4	84.8	96.0	114.0	143.7	195.1	281.9	406.3	551.9
107.5°	89.6	90.8	93.9	101.8	112.5	130.2	157.5	204.3	278.4	378.6	497.4
110°	101.0	102.2	105.3	112.7	123.9	140.6	167.9	211.2	279.3	369.2	470.2



TEST NUMBER: P332516-927

CATALOG NUMBER: SA4XXDIP-C350D810U927-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	111.9	113.1	116.7	123.7	134.8	151.5	177.8	218.6	282.3	364.7	454.8
115°	127.6	129.4	133.8	140.0	151.8	168.5	193.3	230.4	288.0	362.3	440.4
117.5°	143.9	145.7	149.6	156.4	167.4	184.7	208.3	242.4	294.1	361.7	434.0
120°	154.9	156.1	160.4	167.2	177.8	195.1	218.6	250.9	298.6	361.7	430.5
122.5°	164.8	166.0	170.3	176.7	188.1	205.0	228.5	258.8	303.0	361.2	426.5
125°	177.8	180.2	183.9	190.8	202.6	219.9	242.2	270.7	309.7	360.5	419.9
127.5°	189.3	191.3	195.7	203.5	215.8	233.3	254.8	281.0	315.1	359.2	411.1
130°	195.7	198.2	203.2	212.5	224.3	242.2	263.2	287.4	319.0	358.6	405.8
132.5°	202.2	204.1	210.6	219.4	232.2	249.1	270.2	293.8	322.5	358.1	400.8
135°	211.2	213.7	219.9	230.4	243.4	259.5	280.0	302.3	327.6	357.4	393.3
137.5°	220.3	222.6	229.4	239.5	252.9	268.3	287.4	308.2	330.7	357.3	386.9
140°	226.7	228.5	235.4	245.9	258.9	273.8	292.4	312.2	333.3	356.8	383.4
142.5°	233.6	235.5	241.9	251.8	264.4	278.8	296.8	315.1	335.3	356.8	380.5
145°	243.4	245.3	251.5	260.2	272.0	285.6	301.7	318.4	336.4	355.5	375.3
147.5°	254.4	255.1	260.5	269.4	279.2	291.5	306.7	321.2	337.0	353.3	370.8
150°	261.4	262.1	267.0	274.4	283.7	295.5	309.1	322.7	337.0	351.8	367.3
152.5°	267.8	268.0	272.9	279.9	288.2	299.0	311.1	323.7	336.0	349.4	363.4
155°	276.9	277.5	281.2	287.4	294.2	303.5	314.0	324.6	334.5	345.6	357.4
157.5°	285.7	285.7	289.1	294.0	299.9	307.2	316.2	324.6	332.9	341.8	351.3
160°	291.1	291.1	293.6	297.9	302.9	309.7	317.1	324.6	331.4	338.8	346.9
162.5°	296.1	295.6	297.5	301.4	305.9	311.2	318.1	324.6	329.9	335.9	342.9
165°	301.7	301.7	302.9	306.0	309.1	312.8	318.4	323.4	327.1	331.4	336.4
167.5°	307.2	306.7	307.2	309.6	311.3	314.2	318.3	321.9	324.1	326.9	330.4
170°	309.7	309.1	309.7	311.6	312.8	314.7	317.7	320.8	322.1	323.9	326.5
172.5°	312.2	311.6	311.7	313.1	313.8	315.1	317.3	319.9	320.1	321.0	323.0
175°	314.7	314.0	314.0	314.7	315.3	315.3	316.6	318.4	317.7	317.7	319.0
177.5°	315.8	315.3	314.8	315.3	315.3	315.3	315.8	316.8	315.8	315.8	316.2
180°	315.3	315.3	315.3	315.3	315.3	315.3	315.3	315.3	315.3	315.3	315.3



TEST NUMBER: P332516-927

CATALOG NUMBER: SA4XXDIP-C350D810U927-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9
2.5°	466.3	467.0	467.6	467.9	467.9	467.8	467.7	467.6
5°	463.8	464.7	465.6	466.0	465.8	465.6	465.5	465.3
7.5°	458.6	459.4	460.1	460.4	460.3	460.2	460.1	460.0
10°	454.3	455.0	455.7	455.9	455.7	455.5	455.3	455.2
12.5°	449.0	449.7	450.5	450.8	450.5	450.3	450.0	449.8
15°	438.9	439.4	440.0	440.1	439.8	439.6	439.3	439.1
17.5°	427.5	427.8	428.1	428.2	428.0	427.9	427.7	427.5
20°	419.0	419.2	419.5	419.5	419.3	419.1	419.0	418.8
22.5°	410.0	410.5	411.0	411.1	410.7	410.4	410.1	409.9
25°	395.4	395.5	395.5	395.5	395.1	394.7	394.4	394.1
27.5°	378.9	378.7	378.5	378.2	377.8	377.4	376.9	376.5
30°	367.6	367.3	366.9	366.5	366.1	365.7	365.3	364.9
32.5°	356.0	355.6	355.2	354.8	354.4	353.9	353.6	353.2
35°	337.8	337.2	336.6	336.1	335.7	335.3	334.9	334.5
37.5°	318.7	318.1	317.4	316.9	316.3	315.8	315.2	314.7
40°	305.5	304.6	303.8	303.2	302.7	302.3	301.9	301.5
42.5°	292.6	291.6	290.7	290.0	289.7	289.5	289.1	288.9
45°	272.7	271.7	270.8	270.2	270.0	269.7	269.5	269.3
47.5°	253.3	252.3	251.3	250.5	249.9	249.2	248.6	248.0
50°	239.9	238.8	237.6	236.7	236.2	235.8	235.2	234.7
52.5°	226.1	225.1	224.0	223.2	222.5	221.9	221.3	220.6
55°	205.7	204.7	203.7	203.0	202.5	202.0	201.5	201.0
57.5°	185.4	184.4	183.5	182.8	182.3	181.8	181.3	180.8
60°	171.3	170.6	169.8	169.3	168.9	168.4	168.0	167.6
62.5°	157.7	157.0	156.3	155.7	155.3	155.0	154.6	154.1
65°	137.8	137.0	136.2	135.5	135.1	134.7	134.3	133.9
67.5°	117.3	116.5	115.7	115.3	115.2	115.0	114.9	114.8
70°	104.4	103.8	103.1	102.6	102.3	102.1	101.9	101.6
72.5°	91.5	90.9	90.4	90.0	89.8	89.5	89.3	89.0
75°	72.8	72.5	72.2	71.9	71.9	71.8	71.7	71.6
77.5°	55.1	55.1	55.0	54.8	54.6	54.3	54.1	53.9
80°	43.9	43.7	43.6	43.5	43.3	43.3	43.2	43.1
82.5°	33.8	33.7	33.7	33.6	33.5	33.4	33.3	33.2
85°	19.5	19.5	19.5	19.5	19.4	19.3	19.2	19.1
87.5°	9.4	9.6	9.7	9.7	9.8	9.9	9.8	9.8
90°	11.2	11.8	12.4	12.4	13.0	13.6	13.0	13.0
92.5°	121.7	91.6	72.9	60.4	53.2	49.8	47.7	47.7
95°	459.0	363.0	280.0	219.9	189.6	170.3	159.2	151.1
97.5°	678.1	642.5	581.9	517.2	472.8	435.5	416.8	404.0
100°	747.0	759.4	729.0	683.3	629.3	591.5	573.0	568.0
102.5°	743.5	805.0	813.8	794.7	761.7	734.3	714.7	710.7
105°	693.8	800.9	862.2	887.6	888.9	883.9	875.3	871.6
107.5°	623.1	737.1	823.5	878.7	909.3	923.4	929.6	931.2
110°	580.4	687.5	777.4	845.5	889.5	915.5	926.7	932.2



TEST NUMBER: P332516-927

CATALOG NUMBER: SA4XXDIP-C350D810U927-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	549.2	644.0	728.8	796.9	846.8	878.4	894.0	903.0
115°	517.8	594.1	666.5	726.0	774.9	812.1	831.9	836.9
117.5°	502.5	565.5	622.5	673.0	714.7	745.9	766.0	769.8
120°	495.5	553.2	602.7	646.7	682.0	709.2	725.3	732.1
122.5°	489.6	545.2	590.3	628.8	658.7	682.0	695.6	702.4
125°	479.4	532.7	575.4	609.5	634.3	652.3	664.0	667.7
127.5°	467.1	517.9	560.5	592.9	617.8	633.8	643.7	647.5
130°	457.2	506.0	548.2	581.0	606.4	621.9	631.8	635.6
132.5°	446.7	492.7	533.9	566.6	591.5	609.0	618.5	622.2
135°	432.4	472.6	510.4	541.4	566.2	583.5	593.4	597.1
137.5°	419.4	453.4	485.3	513.3	536.4	553.5	561.7	566.2
140°	411.9	441.0	468.9	495.0	516.6	530.2	538.9	543.8
142.5°	405.0	430.6	454.6	477.1	496.3	508.9	516.6	520.1
145°	395.2	416.3	434.8	452.2	467.7	478.2	484.4	487.5
147.5°	387.1	403.9	418.7	432.4	443.8	452.8	457.5	458.6
150°	382.1	396.4	408.8	419.9	429.9	437.9	441.6	442.3
152.5°	376.8	389.0	400.4	409.6	418.0	424.5	426.7	427.4
155°	368.5	378.5	387.8	395.2	401.4	406.3	408.2	408.2
157.5°	359.7	368.0	375.9	381.8	386.5	390.2	391.3	391.3
160°	354.3	361.2	368.0	372.9	376.6	380.3	381.0	381.0
162.5°	348.9	354.7	360.0	364.5	367.2	370.9	371.5	371.1
165°	341.3	345.0	349.4	352.4	354.9	357.4	356.8	356.2
167.5°	334.0	336.8	340.3	342.1	343.4	345.0	344.9	344.4
170°	329.5	331.4	333.9	335.7	337.0	337.5	337.0	337.0
172.5°	325.6	326.9	328.4	329.8	330.5	331.1	330.5	329.5
175°	320.3	320.8	322.1	322.1	322.1	323.4	322.1	320.8
177.5°	316.8	317.3	317.3	317.7	317.3	317.7	316.8	315.8
180°	315.3	315.3	315.3	315.3	315.3	315.3	315.3	315.3

(END OF REPORT)