

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: P332881-927

Luminaire Tested: **SA4XXRDIP-C350D810U927-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332881-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXRDIP-C350D810U927-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 810 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

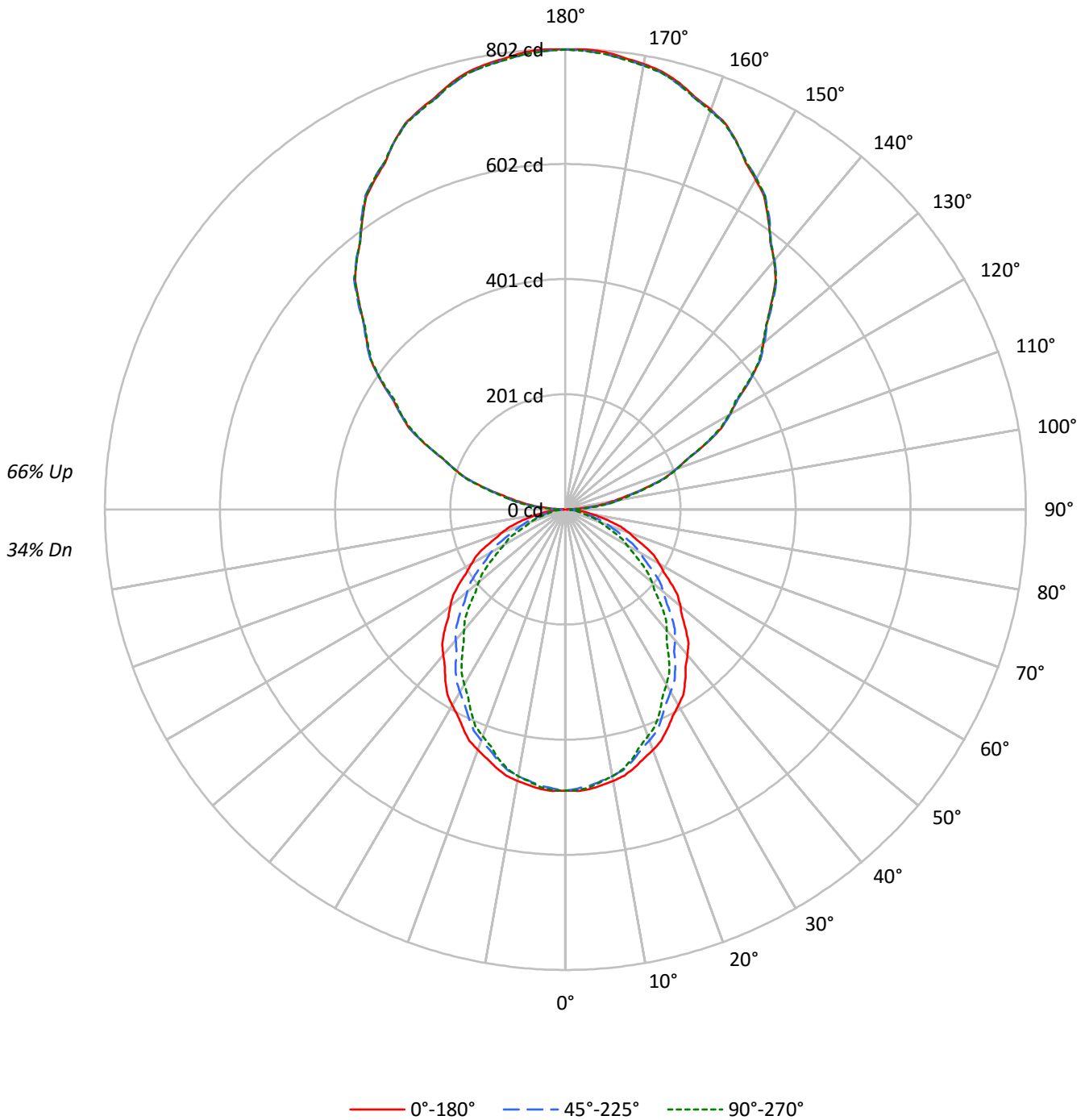
Lumens per Lamp: N/A
Luminaire Lumens: 3355.5 lumens
Efficiency: N/A
Efficacy: 107.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 31.2
Input Voltage (V): 120
Input Current (A_{in}): 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: P332881-927
CATALOG NUMBER: SA4XXRDIP-C350D810U927-4F0-1E-UDD-F1

Luminous Intensity Polar Plot





TEST NUMBER: P332881-927

CATALOG NUMBER: SA4XXRDIP-C350D810U927-4F0-1E-UDD-F1

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	74	74	74	57	57	57	41	41	41	34				34
1	94	90	86	83	85	82	78	76	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	79	69	62	57	71	63	57	52	51	46	43	39	37	34	29	27	26	21				21
4	72	61	54	48	65	56	49	44	45	40	37	35	32	29	26	24	22	18				18
5	66	55	47	41	59	50	43	38	40	35	32	32	28	25	23	21	19	16				16
6	61	49	41	36	55	45	38	33	36	31	28	29	25	22	21	19	17	14				14
7	56	44	37	31	50	40	34	29	33	28	24	26	22	20	19	17	15	12				12
8	52	40	33	27	47	37	30	25	30	25	21	24	20	18	18	15	14	11				11
9	48	37	29	24	44	33	27	23	27	23	19	22	18	16	16	14	12	10				10
10	45	33	26	22	41	31	24	20	25	20	17	20	17	14	15	13	11	9				9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3953	3953	3953
5°	3962	3914	3938
10°	3937	3867	3867
15°	3892	3786	3758
20°	3830	3679	3611
25°	3751	3553	3463
30°	3674	3422	3278
35°	3588	3286	3094
40°	3485	3130	2893
45°	3391	2975	2689
50°	3282	2798	2473
55°	3167	2612	2238
60°	3039	2409	1997
65°	2923	2157	1761
70°	2752	1876	1496
75°	2539	1556	1216
80°	2213	1186	1116
85°	1880	1074	1010



TEST NUMBER: P332881-927

CATALOG NUMBER: SA4XXRDIP-C350D810U927-4F0-1E-UDD-F1

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.0	1.4
10°-20°	128.3	3.8
20°-30°	185.2	5.5
30°-40°	210.0	6.3
40°-50°	202.8	6.0
50°-60°	168.6	5.0
60°-70°	116.4	3.5
70°-80°	59.0	1.8
80°-90°	17.5	0.5
90°-100°	52.8	1.6
100°-110°	156.5	4.7
110°-120°	265.6	7.9
120°-130°	350.2	10.4
130°-140°	393.3	11.7
140°-150°	386.4	11.5
150°-160°	325.0	9.7
160°-170°	216.2	6.4
170°-180°	75.7	2.3
0°-30°	359.5	10.7
0°-40°	569.5	17.0
0°-60°	940.8	28.0
0°-90°	1133.8	33.8
90°-120°	474.9	14.2
90°-150°	1604.7	47.8
90°-180°	2222.0	66.2
0°-180°	3355.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	490	490	490	490	490	
5°	489	487	483	486	486	46
15°	466	462	453	452	450	131
25°	421	414	399	393	389	194
35°	364	352	333	321	314	227
45°	297	283	261	243	236	229
55°	225	209	186	167	159	201
65°	153	136	113	97	92	151
75°	81	67	50	42	39	86
85°	20	13	12	11	11	23
90°	2	9	14	17	19	3
95°	37	43	47	49	49	41
105°	144	145	147	149	151	153
115°	270	270	269	268	268	266
125°	393	393	393	391	390	350
135°	507	511	511	510	508	392
145°	616	619	619	619	617	386
155°	706	706	705	708	705	325
165°	769	767	766	769	767	217
175°	800	797	796	800	796	76
180°	801	801	801	801	801	



TEST NUMBER: P332881-927

CATALOG NUMBER: SA4XXRDIP-C350D810U927-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7
2.5°	490.9	490.6	490.4	490.1	489.8	489.3	488.6	487.9	487.1	486.4	487.1
5°	488.9	488.6	488.3	488.0	487.6	487.0	485.9	485.0	483.9	483.0	483.8
7.5°	484.5	484.2	483.9	483.5	483.2	482.3	481.0	479.7	478.4	477.1	477.6
10°	480.3	479.9	479.5	479.1	478.6	477.7	476.2	474.7	473.2	471.7	472.1
12.5°	474.9	474.4	474.0	473.5	473.0	471.9	470.1	468.3	466.6	464.8	465.0
15°	465.7	464.9	464.2	463.4	462.7	461.3	459.2	457.1	455.0	453.0	452.8
17.5°	454.6	453.4	452.3	451.3	450.2	448.4	445.9	443.4	440.9	438.4	437.9
20°	445.8	444.7	443.7	442.6	441.5	439.6	436.7	433.9	431.0	428.2	427.5
22.5°	436.3	435.0	433.8	432.6	431.3	429.2	426.2	423.2	420.2	417.1	416.1
25°	421.1	419.6	418.1	416.6	415.1	412.6	409.2	405.8	402.3	398.9	397.5
27.5°	405.2	403.3	401.4	399.6	397.7	394.9	391.3	387.6	384.0	380.3	378.5
30°	394.1	392.0	389.9	387.9	385.8	382.8	378.8	374.9	371.0	367.1	365.0
32.5°	382.4	380.0	377.7	375.3	373.0	369.8	365.8	361.7	357.7	353.6	351.2
35°	364.1	361.4	358.8	356.1	353.4	350.0	345.9	341.7	337.5	333.4	330.5
37.5°	344.5	341.7	339.1	336.3	333.5	329.9	325.2	320.6	316.0	311.4	308.2
40°	330.7	328.0	325.2	322.5	319.7	316.0	311.2	306.5	301.7	297.0	293.5
42.5°	317.5	314.7	311.7	308.9	306.0	302.1	297.1	292.2	287.2	282.3	278.7
45°	297.0	293.9	290.8	287.7	284.6	280.6	275.6	270.6	265.6	260.6	256.5
47.5°	275.8	272.6	269.4	266.2	263.0	258.8	253.7	248.4	243.2	238.1	233.8
50°	261.3	258.1	254.8	251.6	248.3	244.1	238.8	233.4	228.1	222.8	218.6
52.5°	246.7	243.4	240.3	237.1	233.9	229.6	224.1	218.6	213.2	207.7	203.5
55°	225.0	221.7	218.3	215.0	211.7	207.2	201.8	196.5	191.0	185.6	181.3
57.5°	203.5	200.0	196.6	193.1	189.6	185.3	179.9	174.6	169.3	163.9	159.5
60°	188.2	184.9	181.6	178.2	174.9	170.6	165.2	159.9	154.6	149.2	144.9
62.5°	174.4	171.0	167.5	164.1	160.6	156.1	150.7	145.2	139.7	134.3	130.2
65°	153.0	149.4	145.8	142.3	138.6	134.2	128.9	123.5	118.2	112.9	109.3
67.5°	130.7	127.3	123.8	120.4	117.0	112.8	107.8	102.9	97.9	93.0	89.9
70°	116.6	113.1	109.6	106.2	102.6	98.5	93.7	89.0	84.2	79.5	76.8
72.5°	101.6	98.5	95.3	92.1	89.0	85.2	80.6	76.1	71.7	67.2	64.9
75°	81.4	78.3	75.2	72.1	69.0	65.5	61.6	57.7	53.8	49.9	47.9
77.5°	60.8	58.2	55.6	53.0	50.4	47.5	44.3	41.1	37.9	34.8	33.7
80°	47.6	45.2	42.8	40.4	37.9	35.5	33.0	30.5	28.0	25.5	25.3
82.5°	36.2	34.0	31.8	29.5	27.3	25.5	24.1	22.7	21.2	19.8	19.6
85°	20.3	18.6	17.0	15.2	13.5	12.6	12.4	12.1	11.9	11.6	11.5
87.5°	7.3	7.1	6.8	6.6	6.3	6.3	6.5	6.7	6.7	6.9	7.1
90°	1.8	3.4	4.9	6.4	7.9	9.2	10.3	11.4	12.5	13.6	14.4
92.5°	13.2	15.0	16.7	18.5	20.2	21.5	22.2	23.0	23.8	24.6	25.0
95°	37.2	38.4	39.6	40.9	42.1	43.3	44.2	45.2	46.1	47.1	47.5
97.5°	64.9	65.9	66.9	67.9	68.8	69.9	71.1	72.2	73.3	74.5	74.9
100°	86.7	87.2	87.8	88.3	88.9	89.8	91.0	92.3	93.5	94.7	95.1
102.5°	109.5	109.7	110.0	110.2	110.4	111.1	112.2	113.3	114.5	115.6	116.0
105°	144.3	144.4	144.6	144.7	144.9	145.2	145.8	146.3	146.9	147.4	147.8
107.5°	180.9	181.0	181.2	181.3	181.5	181.6	181.7	181.8	181.9	182.0	182.4
110°	205.7	205.9	206.1	206.4	206.7	206.8	206.7	206.5	206.4	206.2	206.0



TEST NUMBER: P332881-927

CATALOG NUMBER: SA4XXRDIP-C350D810U927-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	231.4	231.4	231.5	231.6	231.6	231.5	231.2	231.0	230.8	230.5	230.4
115°	270.1	270.1	270.1	270.1	270.1	269.9	269.6	269.3	269.0	268.8	268.6
117.5°	306.4	306.6	306.7	306.7	306.9	306.8	306.7	306.4	306.3	306.1	305.6
120°	330.7	331.3	331.8	332.4	333.0	333.0	332.6	332.2	331.8	331.4	330.7
122.5°	356.0	356.2	356.4	356.6	356.9	356.9	356.7	356.5	356.3	356.1	355.6
125°	393.2	393.2	393.2	393.2	393.2	393.2	393.1	392.9	392.8	392.7	392.4
127.5°	427.1	427.5	427.9	428.3	428.7	428.8	428.6	428.4	428.2	427.9	427.7
130°	450.8	451.3	451.7	452.1	452.5	452.7	452.7	452.7	452.7	452.7	452.4
132.5°	475.2	475.5	475.8	476.0	476.3	476.4	476.3	476.3	476.1	476.0	475.7
135°	507.2	508.0	508.9	509.7	510.6	511.0	511.0	511.0	511.0	511.0	510.6
137.5°	542.2	542.6	542.9	543.3	543.7	544.0	544.2	544.5	544.6	544.9	544.5
140°	565.5	565.7	566.0	566.3	566.6	566.6	566.6	566.6	566.6	566.6	566.6
142.5°	586.8	587.0	587.3	587.6	587.9	588.0	587.8	587.7	587.6	587.5	587.5
145°	616.2	616.8	617.3	617.9	618.5	618.8	618.9	619.0	619.2	619.3	619.2
147.5°	645.5	646.1	646.7	647.5	648.1	648.4	648.2	648.2	648.0	647.9	647.8
150°	663.3	663.8	664.4	665.0	665.5	665.7	665.7	665.7	665.7	665.7	665.7
152.5°	680.2	680.5	680.8	681.1	681.4	681.7	681.8	681.9	682.0	682.1	682.5
155°	706.0	706.0	706.0	706.0	706.0	705.9	705.8	705.7	705.5	705.4	705.9
157.5°	727.9	727.5	727.3	727.1	726.8	726.7	726.7	726.7	726.6	726.6	727.0
160°	740.7	740.5	740.5	740.3	740.1	740.0	739.9	739.7	739.6	739.5	739.9
162.5°	752.6	752.3	751.9	751.5	751.1	750.9	750.8	750.7	750.5	750.4	751.1
165°	768.6	768.2	767.8	767.3	766.9	766.6	766.3	766.0	765.7	765.5	766.3
167.5°	780.9	780.2	779.7	779.1	778.6	778.2	778.2	778.3	778.3	778.3	779.2
170°	787.7	787.1	786.4	785.7	785.1	784.7	784.9	785.1	785.1	785.3	786.1
172.5°	792.7	792.2	791.5	791.0	790.4	790.1	790.2	790.2	790.2	790.3	791.2
175°	799.5	798.8	798.1	797.5	796.8	796.4	796.2	796.1	796.0	795.8	796.8
177.5°	801.8	801.2	800.7	800.1	799.5	799.3	799.3	799.3	799.3	799.3	800.0
180°	800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7



TEST NUMBER: P332881-927

CATALOG NUMBER: SA4XXRDIP-C350D810U927-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7
2.5°	487.9	488.6	489.3	489.6	489.6	489.6	489.5	489.4
5°	484.7	485.4	486.3	486.6	486.5	486.3	486.1	485.9
7.5°	478.2	478.7	479.3	479.3	479.1	478.9	478.6	478.3
10°	472.4	472.7	473.0	473.0	472.7	472.4	472.1	471.7
12.5°	465.2	465.4	465.6	465.5	465.0	464.5	464.1	463.6
15°	452.7	452.5	452.3	451.9	451.3	450.8	450.2	449.6
17.5°	437.4	437.0	436.6	435.9	435.0	434.1	433.2	432.4
20°	426.9	426.2	425.6	424.7	423.6	422.5	421.4	420.3
22.5°	415.1	414.1	413.1	412.2	411.3	410.4	409.6	408.6
25°	396.1	394.7	393.3	392.2	391.3	390.5	389.7	388.8
27.5°	376.8	375.0	373.3	371.9	370.6	369.4	368.2	367.0
30°	362.9	360.8	358.8	357.0	355.7	354.4	353.1	351.7
32.5°	348.8	346.3	344.0	342.1	340.8	339.5	338.3	337.0
35°	327.6	324.9	322.0	319.9	318.4	316.9	315.4	313.9
37.5°	305.1	301.9	298.7	296.4	294.9	293.3	291.8	290.3
40°	289.9	286.5	283.0	280.5	279.0	277.5	276.0	274.5
42.5°	275.1	271.6	268.0	265.5	263.9	262.3	260.7	259.2
45°	252.5	248.3	244.2	241.5	240.0	238.4	236.9	235.5
47.5°	229.6	225.3	221.1	218.2	216.5	214.8	213.2	211.6
50°	214.4	210.2	206.0	203.2	201.6	200.0	198.4	196.9
52.5°	199.2	195.0	190.8	187.8	186.2	184.6	182.9	181.3
55°	177.0	172.6	168.3	165.3	163.7	162.2	160.6	159.0
57.5°	155.1	150.8	146.3	143.5	142.4	141.2	139.9	138.7
60°	140.5	136.3	131.9	129.0	127.7	126.4	125.1	123.7
62.5°	126.3	122.2	118.3	115.7	114.6	113.6	112.5	111.5
65°	105.7	102.1	98.5	96.3	95.2	94.3	93.2	92.2
67.5°	86.8	83.7	80.6	78.6	77.5	76.4	75.3	74.1
70°	74.0	71.2	68.5	66.7	65.8	65.0	64.2	63.4
72.5°	62.5	60.1	57.8	56.2	55.5	54.7	53.9	53.2
75°	46.0	44.1	42.2	41.0	40.5	40.0	39.5	39.0
77.5°	32.6	31.4	30.3	29.7	29.5	29.4	29.2	29.1
80°	25.0	24.7	24.5	24.3	24.2	24.2	24.1	24.0
82.5°	19.4	19.3	19.1	18.9	18.9	18.8	18.7	18.6
85°	11.3	11.1	10.9	10.9	10.9	10.9	10.9	10.9
87.5°	7.1	7.2	7.3	7.4	7.5	7.7	7.8	7.9
90°	15.3	16.1	17.0	17.5	17.7	18.1	18.3	18.6
92.5°	25.5	26.0	26.5	26.9	27.0	27.2	27.3	27.5
95°	47.9	48.3	48.7	49.0	49.0	49.0	49.0	49.0
97.5°	75.4	75.9	76.4	76.7	76.7	76.7	76.7	76.7
100°	95.3	95.6	95.9	96.0	96.0	96.0	96.0	96.0
102.5°	116.4	116.7	117.1	117.3	117.5	117.6	117.7	117.8
105°	148.2	148.6	149.0	149.5	149.9	150.3	150.7	151.1
107.5°	182.8	183.1	183.5	183.7	183.6	183.6	183.6	183.5
110°	205.7	205.4	205.1	205.2	205.7	206.0	206.4	206.8



TEST NUMBER: P332881-927

CATALOG NUMBER: SA4XXRDIP-C350D810U927-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	230.4	230.4	230.3	230.3	230.4	230.4	230.5	230.6
115°	268.5	268.4	268.2	268.1	268.0	267.8	267.7	267.5
117.5°	305.1	304.7	304.2	303.8	303.6	303.2	303.0	302.7
120°	329.9	329.2	328.6	328.4	328.7	328.9	329.2	329.5
122.5°	355.1	354.7	354.3	353.8	353.2	352.8	352.3	351.8
125°	392.1	391.8	391.6	391.3	391.0	390.7	390.5	390.1
127.5°	427.4	427.1	426.8	426.6	426.4	426.2	426.0	425.7
130°	452.2	451.9	451.6	451.2	450.7	450.1	449.6	449.0
132.5°	475.5	475.2	474.9	474.7	474.4	474.2	474.0	473.8
135°	510.4	510.1	509.8	509.5	509.1	508.7	508.3	507.9
137.5°	544.2	543.8	543.4	543.3	543.4	543.4	543.5	543.7
140°	566.4	566.3	566.1	566.0	565.9	565.7	565.5	565.5
142.5°	587.4	587.4	587.4	587.3	587.3	587.3	587.2	587.2
145°	619.0	618.9	618.8	618.5	618.1	617.7	617.3	616.9
147.5°	647.7	647.6	647.5	647.4	647.2	647.1	647.0	646.8
150°	665.7	665.7	665.7	665.7	665.6	665.4	665.3	665.1
152.5°	682.8	683.1	683.4	683.4	683.1	682.7	682.4	682.0
155°	706.5	707.0	707.6	707.6	707.0	706.5	705.9	705.4
157.5°	727.4	727.9	728.3	728.2	727.8	727.3	726.8	726.4
160°	740.3	740.7	741.1	741.0	740.3	739.6	738.9	738.2
162.5°	751.9	752.6	753.4	753.4	752.7	752.0	751.3	750.6
165°	767.1	767.9	768.8	768.9	768.3	767.8	767.2	766.8
167.5°	780.0	780.9	781.6	781.6	780.8	779.9	779.1	778.2
170°	787.0	787.7	788.6	788.5	787.6	786.6	785.6	784.7
172.5°	792.1	793.1	794.0	794.0	793.1	792.0	791.1	790.1
175°	797.7	798.7	799.7	799.7	798.7	797.7	796.8	795.8
177.5°	800.8	801.6	802.4	802.3	801.5	800.6	799.7	798.8
180°	800.7	800.7	800.7	800.7	800.7	800.7	800.7	800.7

(END OF REPORT)