

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: P332880

Luminaire Tested: **SA4XXRDIP-C350D810U835-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332880
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXRDIP-C350D810U835-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 810 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

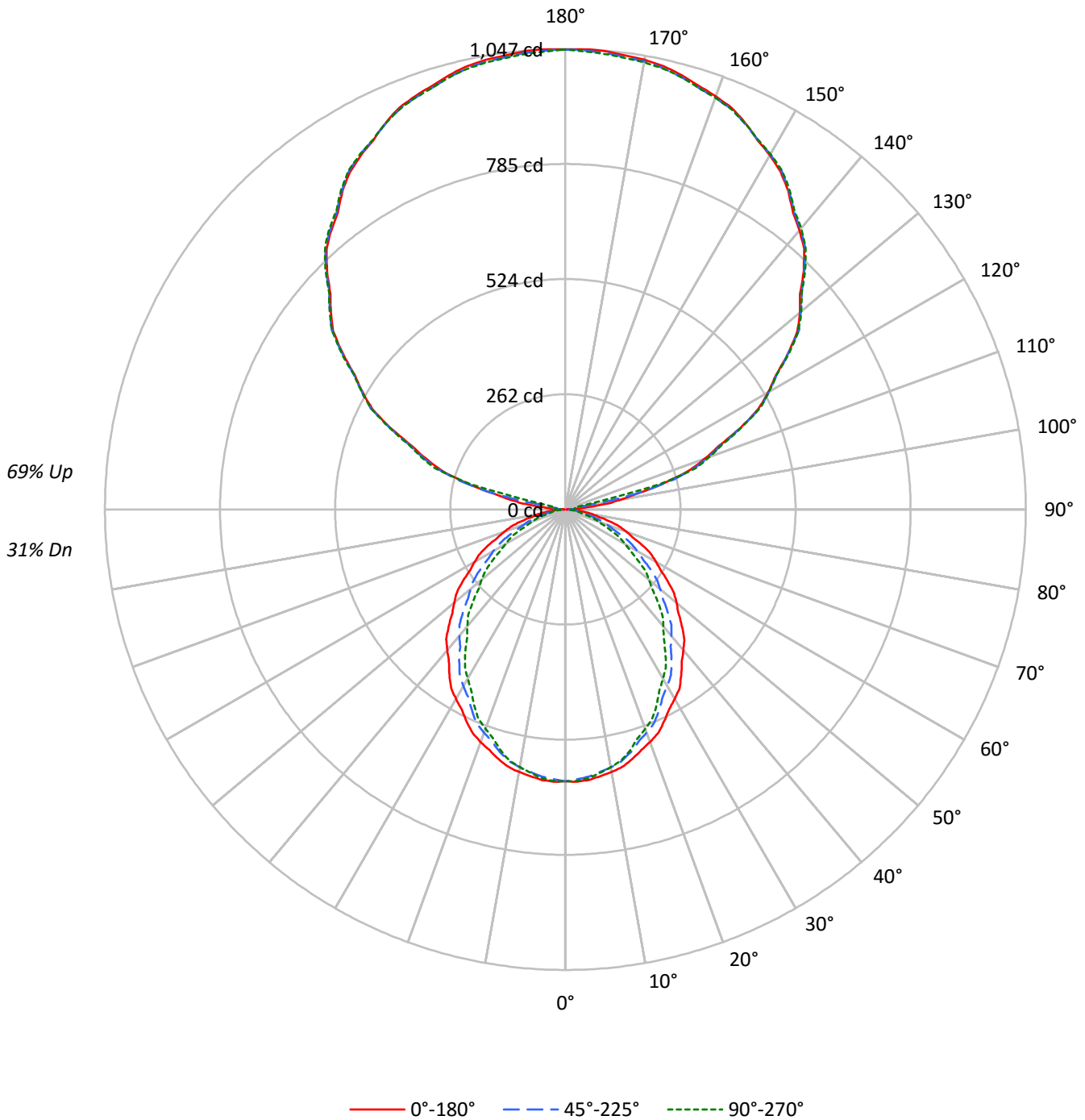
Lumens per Lamp: N/A
Luminaire Lumens: 4665.0 lumens
Efficiency: N/A
Efficacy: 149.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 31.2
Input Voltage (V): 120
Input Current (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	103	103	103	103	92	92	92	92	73	73	73	55	55	55	38	38	38	31				
1	94	89	86	82	84	81	77	75	64	62	60	48	47	46	34	33	33	26				
2	85	78	72	68	76	71	66	61	56	53	50	43	40	38	30	29	28	22				
3	78	69	62	56	70	62	56	51	49	45	42	38	35	33	27	25	24	19				
4	71	61	53	48	64	55	49	44	44	39	36	34	31	28	24	22	21	16				
5	65	54	46	41	58	49	42	37	39	34	31	30	27	24	22	20	18	14				
6	60	49	41	35	54	44	37	32	35	30	27	27	24	21	20	18	16	13				
7	56	44	36	31	50	40	33	28	32	27	24	25	21	19	18	16	14	11				
8	51	40	32	27	46	36	30	25	29	24	21	23	19	17	17	14	13	10				
9	48	36	29	24	43	33	27	22	27	22	19	21	17	15	15	13	11	9				
10	45	33	26	21	40	30	24	20	24	20	17	19	16	13	14	12	10	8				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4991	4991	4991
5°	5002	4941	4971
10°	4970	4882	4882
15°	4914	4779	4743
20°	4835	4643	4558
25°	4735	4486	4372
30°	4638	4320	4139
35°	4529	4147	3905
40°	4400	3951	3652
45°	4280	3756	3394
50°	4143	3532	3121
55°	3997	3298	2825
60°	3836	3042	2522
65°	3689	2722	2223
70°	3474	2367	1888
75°	3203	1965	1535
80°	2794	1497	1409
85°	2371	1362	1269



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.1	1.2
10°-20°	161.9	3.5
20°-30°	233.8	5.0
30°-40°	265.1	5.7
40°-50°	255.9	5.5
50°-60°	212.8	4.6
60°-70°	147.0	3.2
70°-80°	74.5	1.6
80°-90°	22.1	0.5
90°-100°	35.8	0.8
100°-110°	228.0	4.9
110°-120°	436.1	9.3
120°-130°	553.6	11.9
130°-140°	592.3	12.7
140°-150°	553.9	11.9
150°-160°	446.7	9.6
160°-170°	288.1	6.2
170°-180°	99.3	2.1
0°-30°	453.8	9.7
0°-40°	718.9	15.4
0°-60°	1187.7	25.5
0°-90°	1431.3	30.7
90°-120°	699.8	15.0
90°-150°	2399.6	51.4
90°-180°	3234.0	69.3
0°-180°	4665.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	618	618	618	618	618	
5°	617	615	610	614	613	59
15°	588	583	572	571	568	166
25°	532	522	504	496	491	245
35°	460	444	421	405	396	287
45°	375	357	329	307	297	289
55°	284	264	234	211	201	254
65°	193	172	142	123	116	191
75°	103	85	63	53	49	108
85°	26	16	15	14	14	29
90°	2	11	17	22	24	3
95°	43	18	17	22	23	55
105°	235	240	244	249	223	246
115°	439	442	441	442	443	432
125°	618	621	619	622	622	551
135°	766	766	769	770	772	590
145°	884	886	886	887	888	552
155°	969	969	967	970	968	446
165°	1022	1018	1018	1024	1017	289
175°	1045	1041	1042	1048	1039	100
180°	1045	1045	1045	1045	1045	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2
2.5°	619.7	619.3	619.0	618.7	618.3	617.7	616.8	615.9	614.9	614.0	614.9
5°	617.2	616.8	616.4	616.0	615.5	614.7	613.4	612.2	610.9	609.7	610.7
7.5°	611.6	611.2	610.8	610.3	609.9	608.8	607.2	605.5	603.9	602.3	602.9
10°	606.3	605.8	605.3	604.8	604.2	603.0	601.1	599.2	597.3	595.5	595.9
12.5°	599.5	598.9	598.3	597.7	597.1	595.7	593.4	591.2	589.0	586.7	587.0
15°	587.9	586.9	586.0	585.0	584.1	582.3	579.7	577.0	574.4	571.8	571.6
17.5°	573.8	572.4	571.0	569.7	568.3	566.0	562.9	559.7	556.6	553.4	552.8
20°	562.8	561.4	560.1	558.7	557.3	554.9	551.3	547.7	544.1	540.5	539.7
22.5°	550.7	549.1	547.6	546.1	544.5	541.8	538.0	534.2	530.4	526.5	525.3
25°	531.6	529.7	527.8	525.9	524.0	520.9	516.6	512.3	507.9	503.6	501.8
27.5°	511.5	509.1	506.7	504.4	502.0	498.5	493.9	489.3	484.7	480.1	477.8
30°	497.5	494.8	492.2	489.6	487.0	483.2	478.2	473.3	468.3	463.4	460.8
32.5°	482.7	479.7	476.8	473.8	470.8	466.8	461.7	456.6	451.5	446.4	443.3
35°	459.6	456.2	452.9	449.5	446.1	441.8	436.6	431.3	426.1	420.8	417.2
37.5°	434.9	431.4	428.0	424.5	421.0	416.4	410.5	404.7	398.9	393.1	389.1
40°	417.5	414.0	410.5	407.1	403.6	398.9	392.9	386.9	380.9	374.9	370.5
42.5°	400.8	397.2	393.5	389.9	386.3	381.3	375.1	368.8	362.6	356.3	351.8
45°	374.9	371.0	367.1	363.2	359.3	354.2	347.9	341.6	335.3	329.0	323.8
47.5°	348.1	344.1	340.1	336.0	332.0	326.7	320.2	313.6	307.0	300.5	295.1
50°	329.9	325.8	321.7	317.6	313.5	308.1	301.4	294.6	287.9	281.2	275.9
52.5°	311.4	307.3	303.3	299.3	295.3	289.8	282.9	276.0	269.1	262.2	256.9
55°	284.0	279.8	275.6	271.4	267.2	261.6	254.8	248.0	241.1	234.3	228.8
57.5°	256.9	252.5	248.2	243.8	239.4	233.9	227.1	220.4	213.7	206.9	201.4
60°	237.6	233.4	229.2	225.0	220.8	215.3	208.6	201.8	195.1	188.4	182.9
62.5°	220.2	215.8	211.4	207.1	202.7	197.1	190.2	183.3	176.4	169.5	164.4
65°	193.1	188.6	184.1	179.6	175.0	169.4	162.7	155.9	149.2	142.5	138.0
67.5°	165.0	160.7	156.3	152.0	147.7	142.4	136.1	129.9	123.6	117.4	113.5
70°	147.2	142.8	138.4	134.0	129.5	124.3	118.3	112.3	106.3	100.3	96.9
72.5°	128.3	124.3	120.3	116.3	112.3	107.5	101.8	96.1	90.5	84.8	81.9
75°	102.7	98.8	94.9	91.0	87.1	82.7	77.8	72.8	67.9	63.0	60.5
77.5°	76.8	73.5	70.2	66.9	63.6	59.9	55.9	51.9	47.9	43.9	42.5
80°	60.1	57.1	54.0	51.0	47.9	44.8	41.7	38.5	35.3	32.2	31.9
82.5°	45.7	42.9	40.1	37.3	34.5	32.2	30.4	28.6	26.8	25.0	24.8
85°	25.6	23.5	21.4	19.2	17.1	15.9	15.6	15.3	15.0	14.7	14.5
87.5°	9.2	8.9	8.6	8.3	8.0	8.0	8.2	8.4	8.5	8.7	8.9
90°	2.3	4.3	6.2	8.1	10.0	11.6	13.0	14.4	15.8	17.2	18.2
92.5°	9.9	10.0	10.1	10.2	10.3	11.0	12.4	13.8	15.2	16.6	17.6
95°	43.0	37.1	31.2	25.3	19.4	16.5	16.7	16.9	17.0	17.2	18.2
97.5°	91.3	95.0	98.7	102.4	106.1	98.2	78.8	59.4	40.0	20.6	20.7
100°	128.2	131.4	134.5	137.6	140.7	130.3	106.3	82.4	58.4	34.4	31.4
102.5°	169.5	171.8	174.1	176.4	178.7	178.3	175.1	172.0	168.9	165.8	133.9
105°	235.3	236.4	237.4	238.5	239.5	240.5	241.3	242.2	243.1	243.9	245.5
107.5°	296.5	297.0	297.5	298.1	298.6	299.4	300.6	301.8	303.0	304.2	304.9
110°	337.8	338.3	338.8	339.3	339.9	340.6	341.7	342.7	343.8	344.8	345.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	377.8	378.7	379.7	380.6	381.6	382.3	382.8	383.2	383.7	384.2	384.2
115°	439.4	439.9	440.5	441.0	441.5	441.7	441.5	441.3	441.2	441.0	441.3
117.5°	494.9	495.6	496.3	497.0	497.7	498.3	498.6	499.0	499.4	499.8	499.7
120°	532.5	533.2	533.9	534.6	535.2	535.5	535.3	535.2	535.0	534.8	535.2
122.5°	567.5	567.9	568.3	568.7	569.2	569.5	569.7	570.0	570.2	570.5	570.7
125°	617.7	618.4	619.1	619.8	620.5	620.6	620.3	620.0	619.6	619.3	619.8
127.5°	665.2	665.4	665.6	665.8	665.9	666.4	667.2	668.0	668.8	669.6	669.5
130°	695.9	696.1	696.2	696.4	696.6	696.9	697.4	698.0	698.5	699.0	699.2
132.5°	724.0	724.3	724.7	725.0	725.3	725.8	726.4	727.1	727.7	728.4	728.6
135°	766.3	766.1	765.9	765.7	765.6	765.8	766.5	767.2	767.9	768.6	768.9
137.5°	803.6	803.7	803.8	803.8	803.9	804.3	805.1	805.9	806.6	807.4	807.8
140°	828.0	828.4	828.7	829.1	829.4	829.8	830.1	830.5	830.8	831.1	831.7
142.5°	849.9	850.5	851.2	851.8	852.4	852.8	853.0	853.3	853.5	853.7	854.1
145°	883.5	884.1	884.6	885.1	885.6	885.9	885.9	885.9	885.9	885.9	886.1
147.5°	910.3	911.3	912.2	913.2	914.2	914.6	914.4	914.2	914.0	913.9	914.0
150°	929.7	930.4	931.1	931.8	932.4	932.7	932.5	932.4	932.2	932.0	932.0
152.5°	945.9	946.5	947.0	947.6	948.2	948.3	948.0	947.7	947.3	947.0	947.3
155°	968.8	968.9	969.1	969.3	969.5	969.3	968.8	968.2	967.7	967.2	967.9
157.5°	988.0	987.9	987.8	987.7	987.6	987.2	986.6	986.1	985.5	984.9	985.8
160°	999.3	998.7	998.2	997.7	997.2	996.8	996.7	996.5	996.3	996.1	997.2
162.5°	1009.3	1008.6	1007.9	1007.3	1006.6	1006.2	1006.0	1005.9	1005.7	1005.5	1006.6
165°	1021.9	1021.1	1020.2	1019.3	1018.5	1018.0	1018.0	1018.0	1018.0	1018.0	1019.4
167.5°	1031.9	1031.0	1030.1	1029.2	1028.3	1027.8	1027.7	1027.6	1027.5	1027.4	1028.9
170°	1037.6	1036.5	1035.5	1034.4	1033.4	1033.0	1033.1	1033.3	1033.5	1033.7	1035.0
172.5°	1041.3	1040.3	1039.2	1038.2	1037.2	1036.7	1036.9	1037.1	1037.2	1037.4	1038.8
175°	1045.4	1044.3	1043.3	1042.3	1041.2	1040.8	1041.0	1041.1	1041.3	1041.5	1043.0
177.5°	1047.3	1046.3	1045.3	1044.3	1043.4	1043.0	1043.3	1043.6	1043.9	1044.1	1045.2
180°	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2
2.5°	615.9	616.8	617.7	618.1	618.0	618.0	617.9	617.8
5°	611.8	612.8	613.9	614.3	614.1	613.9	613.6	613.4
7.5°	603.6	604.3	605.0	605.1	604.8	604.5	604.1	603.8
10°	596.3	596.7	597.1	597.1	596.7	596.3	595.9	595.5
12.5°	587.2	587.5	587.8	587.6	587.0	586.4	585.8	585.2
15°	571.4	571.2	570.9	570.5	569.7	569.0	568.3	567.5
17.5°	552.2	551.7	551.1	550.2	549.1	548.0	546.9	545.8
20°	538.9	538.0	537.2	536.1	534.7	533.3	532.0	530.6
22.5°	524.0	522.7	521.5	520.3	519.2	518.1	517.0	515.8
25°	500.0	498.3	496.5	495.1	494.0	492.9	491.9	490.8
27.5°	475.6	473.4	471.2	469.4	467.8	466.3	464.8	463.3
30°	458.1	455.5	452.9	450.7	449.0	447.4	445.7	444.0
32.5°	440.3	437.2	434.2	431.8	430.2	428.6	427.0	425.4
35°	413.6	410.1	406.5	403.8	401.9	400.0	398.1	396.2
37.5°	385.1	381.1	377.1	374.1	372.2	370.3	368.4	366.5
40°	366.0	361.6	357.2	354.1	352.2	350.3	348.4	346.5
42.5°	347.3	342.8	338.3	335.1	333.1	331.1	329.1	327.2
45°	318.7	313.5	308.3	304.8	302.9	301.0	299.1	297.3
47.5°	289.8	284.4	279.1	275.4	273.3	271.2	269.1	267.1
50°	270.6	265.4	260.1	256.5	254.5	252.5	250.5	248.5
52.5°	251.5	246.2	240.9	237.1	235.1	233.0	230.9	228.8
55°	223.4	217.9	212.4	208.7	206.7	204.7	202.7	200.7
57.5°	195.8	190.3	184.7	181.2	179.7	178.2	176.6	175.1
60°	177.4	172.0	166.5	162.9	161.2	159.6	157.9	156.2
62.5°	159.4	154.3	149.3	146.1	144.7	143.4	142.0	140.7
65°	133.4	128.9	124.4	121.5	120.2	119.0	117.7	116.4
67.5°	109.6	105.7	101.8	99.2	97.8	96.4	95.0	93.6
70°	93.4	89.9	86.5	84.2	83.1	82.1	81.0	80.0
72.5°	78.9	75.9	73.0	71.0	70.0	69.1	68.1	67.1
75°	58.1	55.7	53.3	51.8	51.1	50.5	49.9	49.2
77.5°	41.1	39.7	38.3	37.5	37.3	37.1	36.9	36.7
80°	31.6	31.2	30.9	30.7	30.6	30.5	30.4	30.3
82.5°	24.5	24.3	24.1	23.9	23.8	23.7	23.6	23.5
85°	14.3	14.0	13.8	13.7	13.7	13.7	13.7	13.7
87.5°	9.0	9.1	9.2	9.4	9.5	9.7	9.8	10.0
90°	19.3	20.3	21.4	22.1	22.4	22.8	23.1	23.5
92.5°	18.7	19.7	20.7	21.3	21.4	21.4	21.5	21.6
95°	19.3	20.3	21.4	22.0	22.2	22.3	22.5	22.7
97.5°	20.9	21.0	21.1	21.2	21.4	21.5	21.7	21.9
100°	28.5	25.5	22.6	21.2	21.4	21.5	21.7	21.9
102.5°	102.0	70.2	38.3	22.4	22.4	22.4	22.5	22.5
105°	247.1	248.6	250.2	247.9	241.6	235.3	229.1	222.8
107.5°	305.7	306.4	307.2	307.9	308.6	309.2	309.9	310.6
110°	345.5	345.9	346.2	346.6	347.2	347.7	348.2	348.7



TEST NUMBER: P332880

CATALOG NUMBER: SA4XXRDIP-C350D810U835-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	384.1	384.0	383.9	384.2	384.9	385.6	386.2	386.9
115°	441.7	442.0	442.4	442.6	442.6	442.6	442.6	442.6
117.5°	499.6	499.6	499.5	499.4	499.4	499.3	499.2	499.2
120°	535.5	535.9	536.2	536.2	535.9	535.5	535.2	534.8
122.5°	570.9	571.1	571.3	571.2	570.9	570.5	570.2	569.8
125°	620.3	620.8	621.3	621.7	621.9	622.0	622.2	622.4
127.5°	669.4	669.3	669.2	669.1	668.9	668.8	668.7	668.5
130°	699.4	699.5	699.7	699.8	699.8	699.8	699.8	699.8
132.5°	728.8	728.9	729.1	729.1	729.0	728.8	728.7	728.6
135°	769.3	769.6	770.0	770.3	770.7	771.0	771.4	771.7
137.5°	808.1	808.5	808.9	809.0	808.9	808.8	808.7	808.6
140°	832.2	832.7	833.2	833.6	833.8	833.9	834.1	834.3
142.5°	854.4	854.8	855.2	855.4	855.4	855.5	855.5	855.5
145°	886.2	886.4	886.6	886.8	887.2	887.5	887.9	888.2
147.5°	914.2	914.3	914.4	914.6	914.8	914.9	915.1	915.3
150°	932.0	932.0	932.0	932.1	932.3	932.4	932.6	932.8
152.5°	947.6	947.9	948.1	948.2	948.1	948.0	947.9	947.8
155°	968.6	969.3	970.0	970.1	969.5	969.0	968.5	968.0
157.5°	986.7	987.6	988.5	988.5	987.6	986.7	985.8	984.9
160°	998.2	999.3	1000.3	1000.3	999.3	998.2	997.2	996.1
162.5°	1007.6	1008.6	1009.7	1009.6	1008.4	1007.2	1006.1	1004.9
165°	1020.8	1022.2	1023.6	1023.5	1021.9	1020.4	1018.8	1017.2
167.5°	1030.5	1032.0	1033.5	1033.4	1031.7	1029.9	1028.2	1026.5
170°	1036.4	1037.8	1039.2	1039.0	1037.3	1035.6	1033.8	1032.1
172.5°	1040.2	1041.6	1043.0	1042.7	1040.9	1039.0	1037.1	1035.2
175°	1044.6	1046.2	1047.7	1047.5	1045.4	1043.3	1041.2	1039.1
177.5°	1046.4	1047.5	1048.6	1048.3	1046.6	1045.0	1043.3	1041.6
180°	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4	1045.4

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