

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: P332888-830

Luminaire Tested: **SA4XXRDIP-C350D1035U830-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332888-830
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: SA4XXRDIP-C350D1035U830-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1035 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4832.1 lumens
Efficiency: N/A
Efficacy: 129.5 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

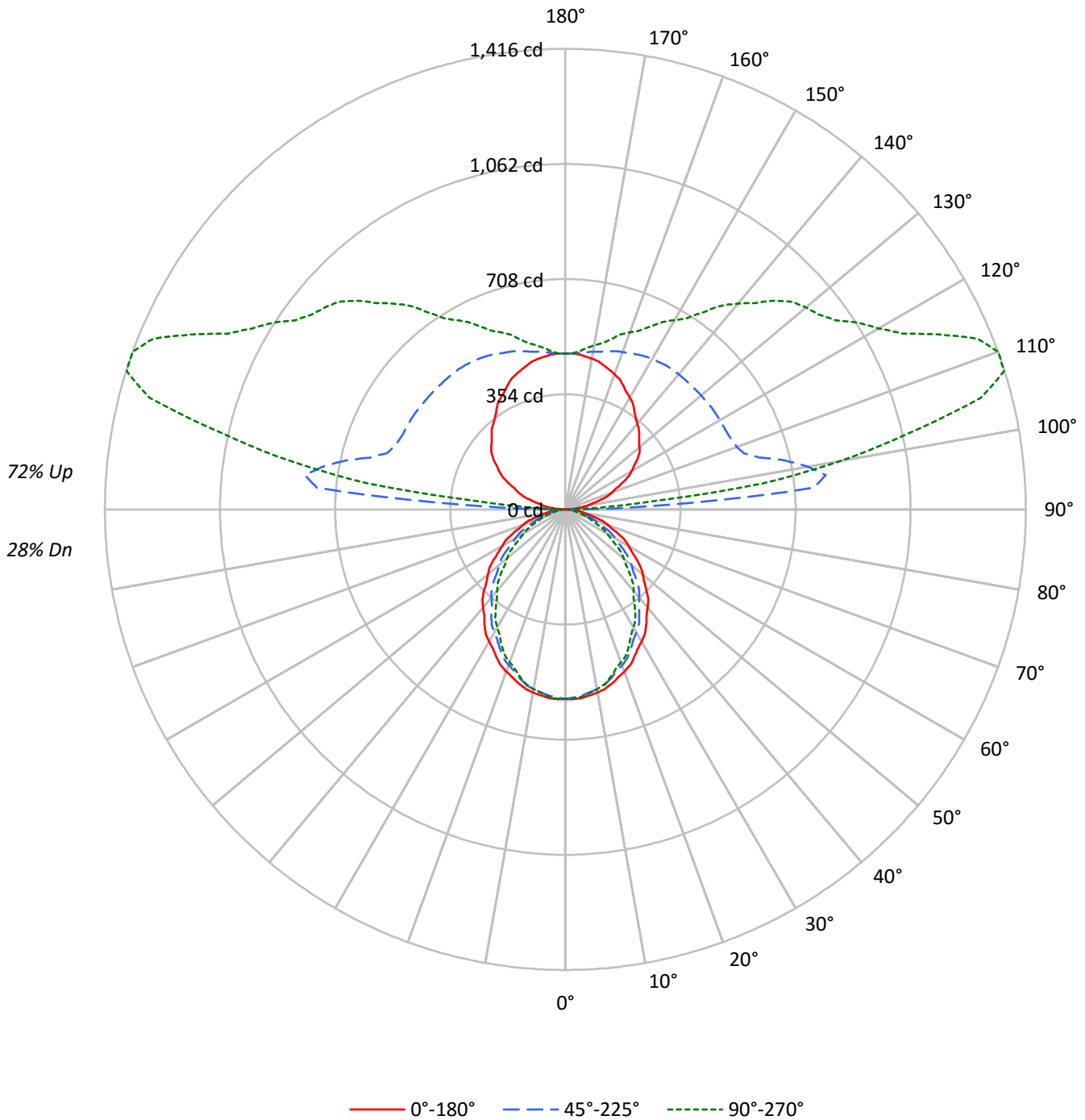
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P332888-830

CATALOG NUMBER: SA4XXRDIP-C350D1035U830-4F0-1E-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	102	102	102	102	91	91	91	91	71	71	71	53	53	53	36	36	36	28
1	93	89	85	82	83	80	77	74	62	60	58	46	45	44	32	31	30	24
2	85	78	72	67	76	70	65	61	55	51	49	41	39	37	28	27	26	20
3	77	68	61	56	69	61	56	51	48	44	41	36	34	31	25	24	22	17
4	71	60	53	47	63	54	48	43	43	38	35	32	29	27	22	21	19	15
5	65	54	46	40	58	48	42	37	38	34	30	29	26	23	20	18	17	13
6	60	48	40	35	53	43	37	32	35	30	26	26	23	20	18	16	15	11
7	55	43	36	30	49	39	33	28	31	26	23	24	20	18	17	15	13	10
8	51	39	32	27	46	36	29	25	28	24	20	22	18	16	15	13	12	9
9	47	36	29	24	42	32	26	22	26	21	18	20	17	14	14	12	11	8
10	44	33	26	21	40	30	24	19	24	19	16	18	15	13	13	11	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4704	4704	4704
5°	4714	4657	4686
10°	4685	4601	4601
15°	4631	4504	4471
20°	4558	4376	4296
25°	4464	4228	4121
30°	4371	4072	3901
35°	4269	3909	3680
40°	4147	3724	3442
45°	4035	3540	3199
50°	3905	3328	2941
55°	3768	3108	2663
60°	3615	2868	2377
65°	3477	2565	2096
70°	3274	2231	1780
75°	3019	1853	1447
80°	2631	1409	1330
85°	2232	1288	1195



TEST NUMBER: P332888-830

CATALOG NUMBER: SA4XXRDIP-C350D1035U830-4F0-1E-UDD-F4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.7	1.1
10°-20°	152.6	3.2
20°-30°	220.4	4.6
30°-40°	249.8	5.2
40°-50°	241.2	5.0
50°-60°	200.6	4.2
60°-70°	138.5	2.9
70°-80°	70.2	1.5
80°-90°	20.7	0.4
90°-100°	345.9	7.2
100°-110°	720.0	14.9
110°-120°	644.9	13.3
120°-130°	542.4	11.2
130°-140°	452.3	9.4
140°-150°	345.5	7.2
150°-160°	242.9	5.0
160°-170°	142.9	3.0
170°-180°	46.5	1.0
0°-30°	427.8	8.9
0°-40°	677.6	14.0
0°-60°	1119.4	23.2
0°-90°	1348.8	27.9
90°-120°	1710.8	35.4
90°-150°	3051.1	63.1
90°-180°	3483.0	72.1
0°-180°	4832.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	583	583	583	583	583	
5°	582	580	575	579	578	55
15°	554	550	539	538	535	156
25°	501	492	475	467	463	231
35°	433	418	397	382	373	271
45°	353	336	310	289	280	272
55°	268	249	221	198	189	239
65°	182	162	134	116	110	180
75°	97	80	59	50	46	102
85°	24	16	14	13	13	27
90°	1	8	17	19	20	3
95°	31	98	767	380	230	35
105°	110	159	617	1329	1324	117
115°	194	243	550	1058	1271	192
125°	270	321	548	900	1014	240
135°	321	382	543	799	907	248
145°	370	423	540	674	741	232
155°	421	454	525	595	620	194
165°	458	472	503	533	541	129
175°	478	479	483	489	487	45
180°	479	479	479	479	479	



TEST NUMBER: P332888-830

CATALOG NUMBER: SA4XXRDIP-C350D1035U830-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7
2.5°	584.1	583.7	583.4	583.2	582.8	582.2	581.4	580.5	579.6	578.7	579.6
5°	581.7	581.4	581.0	580.6	580.1	579.4	578.2	577.0	575.8	574.7	575.6
7.5°	576.5	576.1	575.7	575.2	574.9	573.8	572.3	570.7	569.2	567.7	568.3
10°	571.5	571.0	570.5	570.0	569.5	568.4	566.6	564.8	563.0	561.3	561.7
12.5°	565.1	564.5	563.9	563.4	562.8	561.5	559.3	557.2	555.2	553.0	553.3
15°	554.1	553.2	552.3	551.4	550.5	548.8	546.4	543.8	541.4	538.9	538.8
17.5°	540.8	539.5	538.2	537.0	535.6	533.5	530.6	527.5	524.6	521.6	521.0
20°	530.5	529.1	527.9	526.6	525.3	523.0	519.6	516.2	512.8	509.4	508.7
22.5°	519.1	517.6	516.1	514.7	513.2	510.7	507.1	503.5	499.9	496.2	495.1
25°	501.1	499.3	497.5	495.7	493.9	491.0	486.9	482.9	478.7	474.7	473.0
27.5°	482.1	479.8	477.6	475.4	473.2	469.9	465.5	461.2	456.9	452.5	450.3
30°	468.9	466.4	463.9	461.5	459.0	455.4	450.7	446.1	441.4	436.8	434.3
32.5°	455.0	452.1	449.4	446.6	443.7	440.0	435.2	430.4	425.6	420.8	417.8
35°	433.2	430.0	426.9	423.7	420.5	416.4	411.5	406.5	401.6	396.6	393.2
37.5°	409.9	406.6	403.4	400.1	396.8	392.5	386.9	381.4	376.0	370.5	366.7
40°	393.5	390.2	386.9	383.7	380.4	376.0	370.3	364.7	359.0	353.4	349.2
42.5°	377.8	374.4	370.9	367.5	364.1	359.4	353.5	347.6	341.8	335.8	331.6
45°	353.4	349.7	346.0	342.3	338.7	333.8	327.9	322.0	316.0	310.1	305.2
47.5°	328.1	324.3	320.6	316.7	312.9	307.9	301.8	295.6	289.4	283.2	278.1
50°	310.9	307.1	303.2	299.4	295.5	290.4	284.1	277.7	271.4	265.0	260.0
52.5°	293.5	289.6	285.9	282.1	278.3	273.1	266.6	260.1	253.6	247.1	242.1
55°	267.7	263.7	259.8	255.8	251.8	246.6	240.2	233.8	227.2	220.8	215.7
57.5°	242.1	238.0	233.9	229.8	225.6	220.5	214.1	207.7	201.4	195.0	189.8
60°	223.9	220.0	216.0	212.1	208.1	202.9	196.6	190.2	183.9	177.6	172.4
62.5°	207.5	203.4	199.3	195.2	191.1	185.8	179.3	172.8	166.3	159.8	155.0
65°	182.0	177.8	173.5	169.3	164.9	159.7	153.4	146.9	140.6	134.3	130.1
67.5°	155.5	151.5	147.3	143.3	139.2	134.2	128.3	122.4	116.5	110.7	107.0
70°	138.7	134.6	130.4	126.3	122.1	117.2	111.5	105.8	100.2	94.5	91.3
72.5°	120.9	117.2	113.4	109.6	105.8	101.3	96.0	90.6	85.3	79.9	77.2
75°	96.8	93.1	89.4	85.8	82.1	77.9	73.3	68.6	64.0	59.4	57.0
77.5°	72.4	69.3	66.2	63.1	59.9	56.5	52.7	48.9	45.1	41.4	40.1
80°	56.6	53.8	50.9	48.1	45.1	42.2	39.3	36.3	33.3	30.3	30.1
82.5°	43.1	40.4	37.8	35.2	32.5	30.3	28.7	27.0	25.3	23.6	23.4
85°	24.1	22.1	20.2	18.1	16.1	15.0	14.7	14.4	14.1	13.9	13.7
87.5°	8.4	8.1	8.1	7.6	7.2	6.8	7.8	7.8	8.1	8.4	8.1
90°	0.9	2.8	5.7	6.6	7.5	7.5	13.2	13.2	15.1	17.0	16.0
92.5°	10.7	15.6	24.5	35.9	49.7	69.3	117.1	190.1	261.2	298.5	248.6
95°	31.0	33.8	43.3	55.5	78.1	117.6	199.4	353.8	578.7	766.9	788.5
97.5°	55.7	55.7	63.8	75.1	94.4	127.6	190.7	318.0	541.6	807.7	990.6
100°	71.5	71.5	78.1	89.4	107.3	137.4	192.9	299.3	491.2	756.5	997.4
102.5°	86.5	88.0	93.9	104.4	121.6	150.1	200.4	294.0	457.3	692.6	940.9
105°	110.1	112.9	117.6	128.9	145.8	173.1	218.3	296.4	428.1	617.3	838.4
107.5°	136.1	138.0	142.6	154.7	170.9	197.7	239.2	310.3	422.8	575.1	755.5
110°	153.4	155.2	159.9	171.3	188.2	213.6	255.0	320.8	424.3	560.8	714.2



TEST NUMBER: P332888-830

CATALOG NUMBER: SA4XXRDIP-C350D1035U830-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	169.9	171.8	177.3	187.8	204.7	230.2	270.0	332.2	428.9	554.0	690.9
115°	193.9	196.6	203.2	212.6	230.5	255.9	293.6	350.1	437.5	550.4	669.0
117.5°	218.7	221.3	227.2	237.5	254.2	280.6	316.3	368.3	446.8	549.5	659.2
120°	235.3	237.1	243.7	254.0	270.0	296.4	332.2	381.1	453.6	549.5	653.9
122.5°	250.3	252.1	258.7	268.3	285.9	311.4	347.2	393.1	460.3	548.7	647.9
125°	270.0	273.8	279.5	289.8	307.6	334.0	367.9	411.2	470.5	547.6	638.0
127.5°	287.6	290.6	297.4	309.2	327.8	354.4	387.1	426.8	478.5	545.5	624.6
130°	297.4	301.1	308.6	322.7	340.6	367.9	399.9	436.6	484.6	544.8	616.3
132.5°	307.1	310.1	319.9	333.3	352.7	378.4	410.5	446.4	489.8	544.0	608.8
135°	320.8	324.6	334.0	350.1	369.8	394.3	425.3	459.2	497.8	542.9	597.5
137.5°	334.6	338.2	348.6	363.7	384.3	407.6	436.6	468.3	502.5	542.7	587.7
140°	344.4	347.2	357.6	373.5	393.3	415.9	444.1	474.2	506.2	542.0	582.5
142.5°	355.0	357.8	367.3	382.6	401.6	423.4	450.9	478.7	509.3	542.0	578.0
145°	369.8	372.6	382.0	395.2	413.1	433.8	458.3	483.6	511.0	540.1	570.2
147.5°	386.5	387.5	395.8	409.3	424.1	442.8	465.8	488.0	511.9	536.7	563.3
150°	397.1	398.0	405.6	416.9	430.9	448.8	469.6	490.2	511.9	534.4	558.0
152.5°	406.9	407.1	414.6	425.1	437.7	454.1	472.6	491.7	510.4	530.7	552.0
155°	420.6	421.5	427.2	436.6	447.0	461.1	477.0	493.0	508.1	525.1	542.9
157.5°	433.9	433.9	439.2	446.6	455.6	466.7	480.2	493.0	505.7	519.2	533.7
160°	442.2	442.2	446.0	452.6	460.1	470.5	481.7	493.0	503.4	514.7	527.0
162.5°	449.8	449.0	452.0	457.9	464.7	472.8	483.2	493.0	501.1	510.2	520.9
165°	458.3	458.3	460.1	464.9	469.6	475.1	483.6	491.2	496.8	503.4	511.0
167.5°	466.7	465.8	466.7	470.3	473.0	477.2	483.4	488.9	492.3	496.6	501.9
170°	470.5	469.6	470.5	473.3	475.1	478.0	482.7	487.4	489.3	492.1	495.9
172.5°	474.2	473.3	473.4	475.5	476.6	478.7	481.9	485.9	486.3	487.6	490.6
175°	478.0	477.0	477.0	478.0	478.9	478.9	480.8	483.6	482.7	482.7	484.6
177.5°	479.7	478.9	478.2	478.9	478.9	478.9	479.7	481.2	479.7	479.7	480.4
180°	478.9	478.9	478.9	478.9	478.9	478.9	478.9	478.9	478.9	478.9	478.9



TEST NUMBER: P332888-830

CATALOG NUMBER: SA4XXRDIP-C350D1035U830-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	582.7	582.7	582.7	582.7	582.7	582.7	582.7	582.7
2.5°	580.5	581.4	582.2	582.6	582.5	582.5	582.4	582.3
5°	576.6	577.6	578.6	579.0	578.8	578.6	578.3	578.2
7.5°	568.9	569.6	570.2	570.3	570.0	569.8	569.4	569.1
10°	562.0	562.4	562.8	562.8	562.4	562.0	561.7	561.3
12.5°	553.5	553.7	554.0	553.8	553.3	552.7	552.1	551.6
15°	538.6	538.4	538.1	537.7	537.0	536.3	535.6	534.9
17.5°	520.5	520.0	519.4	518.6	517.6	516.5	515.5	514.4
20°	507.9	507.1	506.3	505.3	504.0	502.7	501.4	500.1
22.5°	493.9	492.7	491.5	490.4	489.4	488.3	487.3	486.2
25°	471.3	469.7	468.0	466.7	465.6	464.6	463.6	462.6
27.5°	448.3	446.2	444.1	442.4	440.9	439.5	438.1	436.7
30°	431.8	429.3	426.9	424.8	423.2	421.7	420.1	418.5
32.5°	415.0	412.1	409.3	407.0	405.5	404.0	402.5	401.0
35°	389.8	386.5	383.1	380.6	378.8	377.0	375.2	373.4
37.5°	363.0	359.2	355.4	352.6	350.8	349.0	347.2	345.4
40°	345.0	340.8	336.7	333.8	332.0	330.2	328.4	326.6
42.5°	327.3	323.1	318.9	315.8	314.0	312.1	310.2	308.4
45°	300.4	295.5	290.6	287.3	285.5	283.7	281.9	280.2
47.5°	273.1	268.1	263.1	259.6	257.6	255.6	253.6	251.8
50°	255.1	250.2	245.2	241.8	239.9	238.0	236.1	234.2
52.5°	237.0	232.1	227.1	223.5	221.6	219.6	217.6	215.7
55°	210.6	205.4	200.2	196.7	194.8	192.9	191.1	189.2
57.5°	184.5	179.4	174.1	170.8	169.4	168.0	166.5	165.0
60°	167.2	162.1	156.9	153.5	151.9	150.4	148.8	147.2
62.5°	150.2	145.4	140.7	137.7	136.4	135.2	133.8	132.6
65°	125.7	121.5	117.3	114.5	113.3	112.2	110.9	109.7
67.5°	103.3	99.6	96.0	93.5	92.2	90.9	89.5	88.2
70°	88.0	84.7	81.5	79.4	78.3	77.4	76.3	75.4
72.5°	74.4	71.5	68.8	66.9	66.0	65.1	64.2	63.2
75°	54.8	52.5	50.2	48.8	48.2	47.6	47.0	46.4
77.5°	38.7	37.4	36.1	35.3	35.2	35.0	34.8	34.6
80°	29.8	29.4	29.1	28.9	28.8	28.7	28.7	28.6
82.5°	23.1	22.9	22.7	22.5	22.4	22.3	22.2	22.1
85°	13.5	13.2	13.0	12.9	12.9	12.9	12.9	12.9
87.5°	8.2	8.3	8.5	8.5	8.7	9.0	8.9	9.0
90°	17.0	17.9	18.9	18.9	19.8	20.7	19.8	19.8
92.5°	184.8	139.1	110.7	91.8	80.8	75.7	72.5	72.5
95°	697.2	551.4	425.3	334.0	287.9	258.7	241.9	229.6
97.5°	1030.2	975.9	883.9	785.7	718.1	661.5	633.3	613.7
100°	1134.8	1153.6	1107.5	1037.8	956.0	898.6	870.3	862.9
102.5°	1129.5	1222.9	1236.2	1207.2	1157.0	1115.4	1085.7	1079.7
105°	1053.9	1216.6	1309.8	1348.4	1350.3	1342.7	1329.6	1323.9
107.5°	946.4	1119.7	1250.9	1334.8	1381.3	1402.8	1412.2	1414.7
110°	881.7	1044.4	1180.9	1284.4	1351.2	1390.7	1407.7	1416.2



TEST NUMBER: P332888-830

CATALOG NUMBER: SA4XXRDIP-C350D1035U830-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	834.2	978.2	1107.1	1210.6	1286.5	1334.3	1358.0	1371.7
115°	786.6	902.4	1012.5	1102.8	1177.1	1233.6	1263.7	1271.2
117.5°	763.3	859.1	945.7	1022.3	1085.7	1133.1	1163.6	1169.4
120°	752.7	840.3	915.6	982.3	1035.9	1077.4	1101.8	1112.2
122.5°	743.8	828.2	896.7	955.3	1000.6	1035.9	1056.7	1067.1
125°	728.3	809.2	874.1	925.9	963.6	990.8	1008.7	1014.4
127.5°	709.5	786.8	851.6	900.7	938.5	962.8	977.8	983.4
130°	694.5	768.7	832.7	882.6	921.1	944.7	959.8	965.4
132.5°	678.6	748.5	810.9	860.8	898.6	925.1	939.4	945.1
135°	656.8	717.9	775.3	822.4	860.1	886.4	901.4	907.1
137.5°	637.1	688.8	737.2	779.7	814.8	840.8	853.3	860.1
140°	625.8	670.0	712.3	751.8	784.8	805.5	818.6	826.1
142.5°	615.2	654.1	690.5	724.7	753.8	773.1	784.8	790.0
145°	600.3	632.4	660.5	686.9	710.4	726.4	735.8	740.6
147.5°	588.1	613.5	636.1	656.8	674.1	687.9	695.0	696.6
150°	580.6	602.2	621.0	638.0	653.0	665.2	670.9	671.8
152.5°	572.3	590.9	608.2	622.2	635.0	644.9	648.3	649.2
155°	559.9	575.0	589.0	600.3	609.7	617.3	620.1	620.1
157.5°	546.5	559.1	571.0	580.0	587.1	592.8	594.5	594.5
160°	538.2	548.6	558.9	566.5	572.1	577.8	578.7	578.7
162.5°	529.9	538.8	546.9	553.6	557.8	563.5	564.4	563.6
165°	518.5	524.1	530.7	535.4	539.1	542.9	542.0	541.0
167.5°	507.4	511.7	517.0	519.8	521.7	524.1	524.0	523.2
170°	500.6	503.4	507.2	510.0	511.9	512.8	511.9	511.9
172.5°	494.6	496.6	498.9	501.0	502.1	503.0	502.1	500.6
175°	486.4	487.4	489.3	489.3	489.3	491.2	489.3	487.4
177.5°	481.2	481.9	481.9	482.7	481.9	482.7	481.2	479.7
180°	478.9	478.9	478.9	478.9	478.9	478.9	478.9	478.9

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