

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: P331254-840

Luminaire Tested: **SA2XXDIP-C290D530U840-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331254-840
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-C290D530U840-4F0-1E-UDD-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 530 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3294.3 lumens
Efficiency: N/A
Efficacy: 128.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

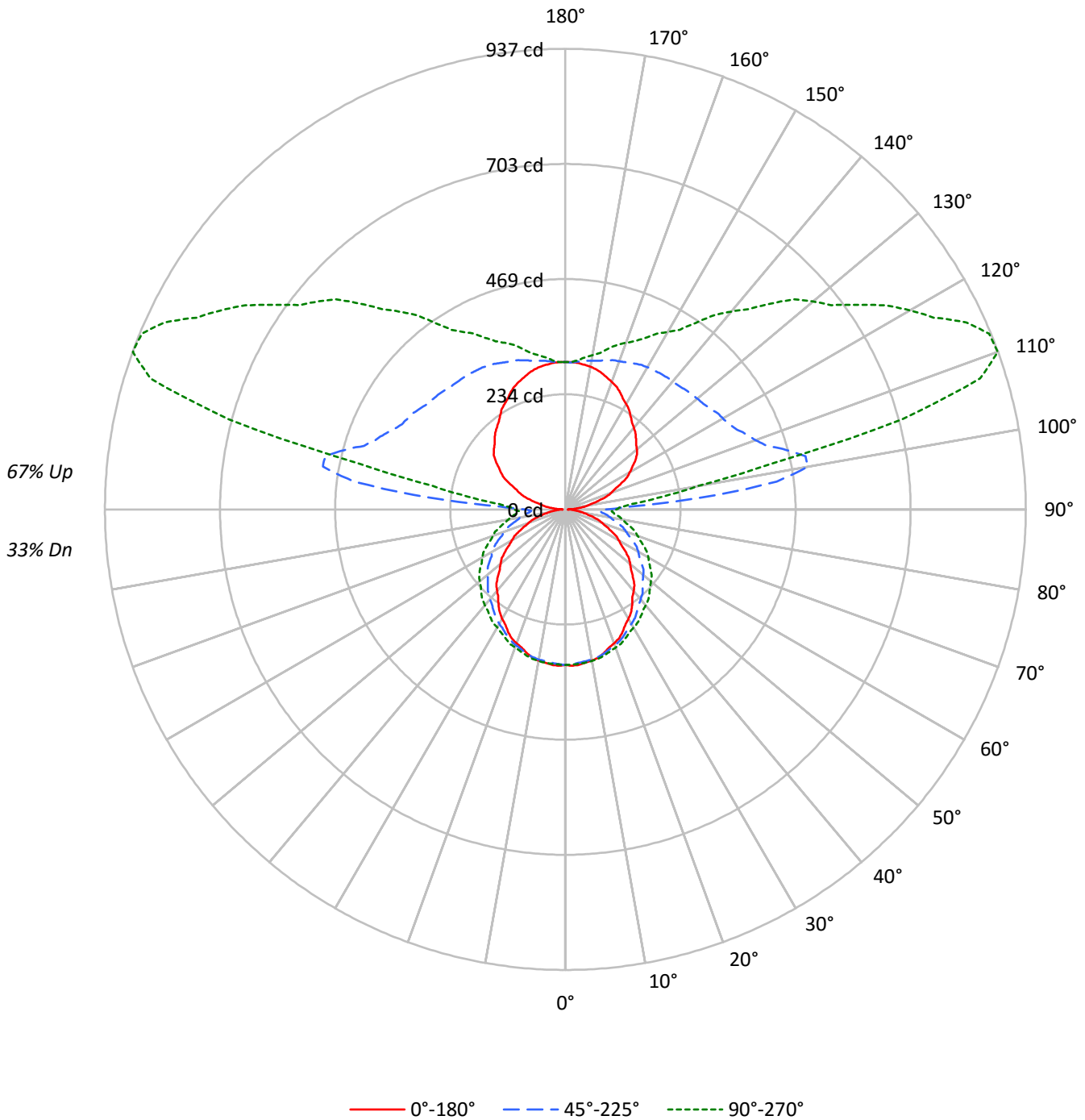
Input Watts (W): 25.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P331254-840

CATALOG NUMBER: SA2XXDIP-C290D530U840-4F0-1E-UDD-D4

Luminous Intensity Polar Plot





TEST NUMBER: P331254-840

CATALOG NUMBER: SA2XXDIP-C290D530U840-4F0-1E-UDD-D4

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	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40	33
1	93	88	84	80	83	79	76	73	63	61	58	48	46	45	34	33	32	25
2	84	76	70	65	75	69	63	59	55	51	47	41	39	37	29	28	26	21
3	76	67	59	53	68	60	54	49	48	43	39	36	33	30	26	24	22	17
4	70	59	51	45	62	53	46	41	42	37	33	32	29	26	23	20	18	14
5	64	52	44	38	57	47	40	35	38	32	28	29	25	22	20	18	16	12
6	59	47	38	33	52	42	35	30	34	28	24	26	22	19	18	16	14	11
7	54	42	34	28	48	38	31	26	30	25	21	23	20	17	17	14	12	9
8	50	38	30	25	45	34	28	23	28	22	19	21	17	15	15	13	11	8
9	47	34	27	22	42	31	25	20	25	20	17	19	16	13	14	12	10	7
10	43	31	24	20	39	29	22	18	23	18	15	18	14	12	13	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5112	5112	5112
5°	5137	4921	4901
10°	5105	4774	4722
15°	5033	4621	4531
20°	4944	4456	4348
25°	4857	4297	4181
30°	4733	4133	4015
35°	4608	3975	3898
40°	4476	3840	3780
45°	4351	3721	3681
50°	4218	3612	3581
55°	4076	3496	3482
60°	3902	3373	3374
65°	3723	3232	3247
70°	3523	3079	3110
75°	3270	2929	2984
80°	2861	2776	2858
85°	2484	2642	2759



TEST NUMBER: P331254-840

CATALOG NUMBER: SA2XXDIP-C290D530U840-4F0-1E-UDD-D4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	30.0	0.9
10°-20°	86.0	2.6
20°-30°	130.3	4.0
30°-40°	158.8	4.8
40°-50°	170.8	5.2
50°-60°	165.9	5.0
60°-70°	144.8	4.4
70°-80°	111.5	3.4
80°-90°	77.5	2.4
90°-100°	171.3	5.2
100°-110°	444.0	13.5
110°-120°	456.5	13.9
120°-130°	369.2	11.2
130°-140°	291.2	8.8
140°-150°	216.7	6.6
150°-160°	151.6	4.6
160°-170°	89.2	2.7
170°-180°	29.0	0.9
0°-30°	246.3	7.5
0°-40°	405.1	12.3
0°-60°	741.7	22.5
0°-90°	1075.6	32.6
90°-120°	1071.8	32.5
90°-150°	1948.9	59.2
90°-180°	2219.0	67.4
0°-180°	3294.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	317	317	317	317	317	
5°	318	316	313	316	316	30
15°	303	304	304	308	307	85
25°	275	278	283	288	289	127
35°	237	245	254	263	267	148
45°	194	207	223	237	242	150
55°	149	166	190	205	212	133
65°	102	125	151	170	176	101
75°	56	82	112	130	137	60
85°	17	45	74	93	100	18
90°	5	39	80	97	103	4
95°	24	75	278	155	141	24
105°	72	122	466	818	710	77
115°	126	164	385	778	900	124
125°	174	206	359	624	725	154
135°	203	243	344	516	592	157
145°	232	266	338	422	463	145
155°	263	284	328	371	385	121
165°	287	295	314	333	338	81
175°	299	299	302	306	305	28
180°	299	299	299	299	299	



TEST NUMBER: P331254-840

CATALOG NUMBER: SA2XXDIP-C290D530U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6
2.5°	318.4	318.1	317.9	317.6	317.4	317.0	316.4	315.9	315.3	314.7	315.1
5°	317.5	317.2	316.9	316.6	316.2	315.8	315.2	314.6	314.0	313.4	314.0
7.5°	314.6	314.4	314.2	314.0	313.8	313.5	313.0	312.6	312.0	311.5	312.4
10°	312.5	312.3	312.0	311.8	311.6	311.3	311.0	310.7	310.4	310.1	310.9
12.5°	308.7	308.8	308.8	308.9	308.9	308.8	308.6	308.4	308.1	307.9	308.7
15°	302.8	303.0	303.2	303.4	303.6	303.7	303.7	303.7	303.7	303.7	304.6
17.5°	295.1	295.5	295.9	296.4	296.8	297.2	297.5	297.8	298.1	298.5	299.4
20°	289.9	290.4	290.9	291.4	292.0	292.5	292.9	293.3	293.7	294.1	295.2
22.5°	284.5	285.0	285.6	286.2	286.8	287.4	287.9	288.5	289.1	289.6	290.7
25°	275.3	276.0	276.7	277.4	278.1	278.9	279.8	280.7	281.7	282.6	283.8
27.5°	264.3	265.4	266.6	267.7	268.9	270.0	271.0	272.2	273.3	274.4	275.9
30°	256.9	258.2	259.5	260.8	262.2	263.6	264.9	266.2	267.5	268.8	270.4
32.5°	248.8	250.3	251.8	253.3	254.8	256.3	257.9	259.4	261.1	262.6	264.5
35°	237.2	238.9	240.7	242.4	244.1	245.9	247.9	249.8	251.8	253.7	255.9
37.5°	224.5	226.5	228.5	230.6	232.5	234.8	237.3	239.7	242.3	244.8	247.3
40°	216.1	218.3	220.6	222.8	225.0	227.5	230.2	233.1	235.8	238.5	241.2
42.5°	208.0	210.3	212.5	214.7	217.0	219.6	222.9	226.0	229.1	232.3	235.2
45°	194.5	197.2	200.1	202.8	205.5	208.6	212.3	215.8	219.3	223.0	226.1
47.5°	181.2	184.2	187.2	190.2	193.2	196.8	201.0	205.1	209.3	213.5	216.8
50°	172.1	175.2	178.3	181.5	184.7	188.5	193.2	197.7	202.3	206.9	210.4
52.5°	163.2	166.5	169.9	173.2	176.5	180.6	185.4	190.3	195.1	200.0	203.5
55°	149.1	152.8	156.4	160.1	163.8	168.2	173.6	178.8	184.2	189.5	193.2
57.5°	135.1	139.3	143.4	147.5	151.7	156.4	161.9	167.2	172.7	178.1	182.1
60°	125.2	129.7	134.0	138.4	142.8	147.8	153.7	159.5	165.3	171.1	175.0
62.5°	116.4	121.0	125.5	130.1	134.6	139.8	145.6	151.4	157.2	163.1	167.1
65°	101.8	106.8	111.8	116.8	121.8	127.3	133.3	139.4	145.4	151.4	155.6
67.5°	88.5	93.7	98.9	104.1	109.4	115.0	121.2	127.3	133.5	139.7	143.9
70°	78.9	84.2	89.5	94.8	100.1	105.9	112.2	118.6	124.9	131.2	135.6
72.5°	70.1	75.5	81.0	86.4	92.0	97.9	104.3	110.7	117.1	123.5	127.8
75°	56.5	62.1	67.9	73.5	79.3	85.3	91.9	98.5	104.9	111.5	115.8
77.5°	43.2	49.2	55.1	61.1	67.2	73.4	80.1	86.6	93.3	99.9	104.3
80°	34.4	40.6	46.9	53.0	59.3	65.7	72.3	79.0	85.5	92.2	96.4
82.5°	27.1	33.2	39.4	45.4	51.6	58.1	64.7	71.5	78.2	84.8	89.2
85°	16.6	22.8	29.2	35.4	41.8	48.2	54.7	61.3	67.8	74.3	78.6
87.5°	9.1	15.6	22.0	28.4	34.6	41.3	48.5	55.7	63.0	69.6	73.6
90°	5.2	12.8	21.0	28.1	35.1	43.1	52.5	63.0	73.0	80.2	83.6
92.5°	11.2	19.9	29.5	37.6	47.0	58.3	77.6	102.2	124.8	132.1	124.5
95°	23.8	30.9	41.5	51.4	65.4	84.7	117.3	173.6	246.5	278.5	254.2
97.5°	36.1	43.4	53.8	65.8	80.7	101.5	140.6	216.3	333.2	434.2	456.9
100°	47.6	53.0	62.0	75.0	90.3	111.2	147.3	223.4	353.5	500.9	587.5
102.5°	57.8	62.5	71.1	83.8	99.2	119.9	153.6	221.6	342.3	500.6	634.7
105°	72.5	77.9	84.8	96.4	112.0	132.3	164.6	221.2	321.5	466.3	623.0
107.5°	89.1	93.2	99.6	109.9	124.8	144.7	176.1	225.8	309.4	429.7	568.5
110°	99.8	104.1	109.6	119.1	133.2	153.5	183.8	230.2	305.5	411.8	534.3



TEST NUMBER: P331254-840

CATALOG NUMBER: SA2XXDIP-C290D530U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	109.9	113.9	119.6	128.3	141.6	162.0	191.2	235.1	303.7	399.2	509.7
115°	125.6	129.7	134.2	142.3	154.9	173.3	202.7	242.4	302.9	384.6	478.7
117.5°	141.6	144.6	148.8	155.6	167.4	186.0	213.2	250.3	303.6	375.4	457.6
120°	151.7	154.4	158.2	163.9	175.8	194.2	220.7	255.9	304.3	370.0	446.0
122.5°	161.4	163.4	167.0	172.8	184.5	203.1	227.9	260.6	305.6	366.0	435.9
125°	173.7	175.4	178.8	185.8	197.3	215.1	239.0	268.2	307.2	358.8	420.9
127.5°	183.8	186.0	190.8	198.2	209.2	227.1	249.8	275.8	309.5	353.6	407.0
130°	189.9	192.0	197.6	205.6	217.0	234.2	256.5	280.5	311.4	350.4	397.8
132.5°	195.3	198.0	204.1	212.6	224.4	241.4	262.3	285.3	313.5	347.8	390.0
135°	203.2	205.5	212.4	221.1	234.3	251.0	270.3	291.5	315.6	344.3	379.2
137.5°	211.1	213.8	220.7	229.8	243.0	258.1	276.8	296.0	317.4	341.4	370.9
140°	217.0	219.2	226.0	235.1	247.7	262.8	280.2	298.2	318.0	339.5	366.0
142.5°	223.0	224.7	231.1	240.1	252.3	266.3	283.2	300.6	318.8	338.8	361.6
145°	231.6	233.8	239.5	248.2	259.7	272.4	287.9	304.1	320.2	337.5	356.5
147.5°	241.2	242.9	248.4	256.4	266.0	277.2	291.9	306.1	320.6	335.4	351.6
150°	247.6	249.3	254.0	261.5	270.1	280.4	293.7	307.0	320.2	334.1	347.9
152.5°	254.1	254.9	259.5	266.1	274.3	283.7	295.6	307.4	319.3	331.7	344.7
155°	263.2	263.8	267.2	273.6	279.9	288.5	298.3	308.1	317.9	327.7	338.6
157.5°	270.7	271.4	274.2	279.6	284.8	292.0	300.2	308.1	315.3	323.6	333.0
160°	275.9	276.4	278.7	283.4	287.9	294.3	301.2	308.1	313.9	320.8	328.8
162.5°	280.9	280.5	282.9	286.6	290.7	295.7	301.6	307.6	312.5	318.5	325.2
165°	286.8	286.2	287.4	290.8	293.7	297.2	302.4	306.4	309.8	313.9	319.0
167.5°	291.6	290.9	292.0	294.2	296.3	298.4	302.3	305.6	307.2	309.8	313.1
170°	294.9	293.7	294.3	296.0	297.2	298.9	301.7	304.7	305.8	307.5	309.8
172.5°	296.7	296.0	295.7	297.4	298.1	299.3	301.3	303.3	304.0	304.8	306.6
175°	298.9	298.3	297.7	298.9	298.9	299.4	300.6	301.7	301.2	301.7	302.4
177.5°	299.9	299.0	298.5	299.4	299.4	299.4	299.9	300.8	299.9	299.4	299.9
180°	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4



TEST NUMBER: P331254-840

CATALOG NUMBER: SA2XXDIP-C290D530U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6
2.5°	315.5	315.9	316.3	316.5	316.3	316.1	316.0	315.8
5°	314.6	315.2	315.8	316.0	315.9	315.8	315.7	315.6
7.5°	313.1	313.8	314.6	314.9	314.8	314.7	314.6	314.5
10°	311.7	312.6	313.4	313.8	313.7	313.6	313.5	313.4
12.5°	309.5	310.3	311.1	311.5	311.4	311.3	311.2	311.1
15°	305.5	306.5	307.4	307.8	307.7	307.6	307.5	307.4
17.5°	300.4	301.3	302.3	302.8	302.8	302.8	302.8	302.8
20°	296.3	297.4	298.5	299.1	299.1	299.1	299.1	299.1
22.5°	292.0	293.1	294.2	294.8	295.0	295.1	295.3	295.5
25°	285.1	286.3	287.5	288.2	288.5	288.8	289.1	289.4
27.5°	277.4	279.0	280.5	281.4	281.7	281.9	282.1	282.4
30°	272.1	273.8	275.4	276.3	276.6	276.9	277.2	277.5
32.5°	266.3	268.2	270.1	271.4	271.9	272.5	273.0	273.5
35°	258.2	260.4	262.7	264.2	264.9	265.6	266.3	267.0
37.5°	249.7	252.3	254.8	256.4	257.1	257.9	258.6	259.3
40°	243.9	246.5	249.1	251.0	251.9	252.8	253.7	254.6
42.5°	238.1	241.0	243.9	245.8	246.7	247.6	248.5	249.4
45°	229.2	232.5	235.6	237.7	238.7	239.7	240.8	241.8
47.5°	220.2	223.4	226.7	228.9	230.0	231.2	232.3	233.4
50°	213.8	217.3	220.8	223.1	224.2	225.3	226.4	227.5
52.5°	207.0	210.6	214.1	216.5	217.7	218.9	220.2	221.3
55°	196.8	200.5	204.2	206.6	207.9	209.3	210.7	212.0
57.5°	186.0	190.0	193.9	196.5	197.9	199.2	200.6	202.0
60°	178.8	182.8	186.6	189.2	190.7	192.1	193.6	195.0
62.5°	171.3	175.4	179.6	182.3	183.6	184.9	186.3	187.6
65°	159.8	163.9	168.1	170.9	172.2	173.5	174.8	176.1
67.5°	148.0	152.3	156.5	159.4	160.7	162.1	163.5	164.9
70°	140.0	144.3	148.8	151.6	152.8	154.0	155.2	156.4
72.5°	132.1	136.4	140.7	143.6	145.0	146.5	148.0	149.5
75°	120.3	124.6	129.1	131.9	133.2	134.5	135.8	137.1
77.5°	108.7	113.0	117.3	120.3	121.7	123.1	124.5	125.9
80°	100.8	105.0	109.4	112.2	113.6	115.0	116.4	117.9
82.5°	93.4	97.8	102.0	104.8	106.1	107.6	108.9	110.2
85°	82.9	87.2	91.5	94.3	95.7	97.1	98.6	100.0
87.5°	77.7	81.6	86.0	88.9	90.2	91.5	92.8	94.1
90°	87.2	90.1	95.3	98.6	99.8	101.0	102.2	103.4
92.5°	115.4	112.3	111.5	110.5	111.3	110.7	112.3	112.6
95°	211.4	180.2	159.9	149.7	143.4	140.1	139.6	141.4
97.5°	408.5	348.2	289.6	250.5	224.2	211.3	204.1	200.5
100°	579.3	511.6	436.5	369.2	322.6	298.9	283.4	274.1
102.5°	690.3	677.8	623.9	552.4	501.6	460.4	440.7	427.8
105°	746.3	815.0	826.1	809.4	774.8	740.2	716.6	709.6
107.5°	698.9	800.4	863.7	893.9	899.5	898.7	894.8	885.2
110°	659.1	765.5	842.4	891.9	917.8	929.8	936.1	936.6



TEST NUMBER: P331254-840

CATALOG NUMBER: SA2XXDIP-C290D530U840-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	622.5	724.7	806.7	863.0	898.6	918.1	929.0	933.2
115°	576.7	668.4	747.0	808.4	850.4	878.0	894.1	900.4
117.5°	541.3	622.2	693.7	751.3	794.1	823.0	839.9	845.3
120°	523.1	597.4	661.3	715.7	757.1	785.4	803.1	810.0
122.5°	508.4	576.5	637.1	686.3	723.5	751.0	766.8	772.6
125°	486.5	548.6	602.0	647.0	681.3	704.1	719.4	725.0
127.5°	464.8	521.0	571.4	612.9	643.0	664.4	677.7	682.3
130°	450.9	502.9	550.9	590.5	619.6	640.0	652.3	657.7
132.5°	437.6	485.7	529.9	567.2	595.8	616.2	627.6	632.6
135°	418.8	459.0	499.1	532.8	558.5	578.2	589.5	592.5
137.5°	403.2	437.0	469.0	498.4	521.7	538.8	548.5	552.7
140°	393.5	422.7	450.9	477.4	496.3	512.0	521.2	525.3
142.5°	385.7	410.5	434.5	456.7	474.7	488.9	497.1	498.3
145°	375.0	394.7	413.0	430.3	444.6	454.9	461.2	463.4
147.5°	366.9	381.9	396.0	408.4	420.0	428.1	432.2	433.5
150°	361.6	374.4	386.5	396.8	405.5	412.3	415.8	416.4
152.5°	356.6	368.4	378.6	387.6	394.4	400.4	402.9	403.0
155°	349.6	358.8	367.4	373.8	380.1	384.2	386.5	385.3
157.5°	341.4	349.1	356.4	361.3	365.8	369.2	370.2	370.2
160°	336.3	342.6	349.0	353.0	357.1	359.9	360.5	360.5
162.5°	331.2	336.7	342.1	345.2	349.2	351.2	351.7	351.3
165°	323.7	327.7	331.7	334.1	336.3	338.6	338.6	338.1
167.5°	316.4	319.5	322.2	324.4	325.4	326.7	326.6	325.9
170°	312.8	314.5	316.8	317.9	318.5	320.2	319.6	318.5
172.5°	308.6	309.8	311.6	312.4	313.0	313.8	313.2	312.5
175°	304.1	304.7	305.3	305.8	305.8	306.4	305.8	304.7
177.5°	300.8	300.8	301.3	301.3	301.3	301.3	300.8	299.9
180°	299.4	299.4	299.4	299.4	299.4	299.4	299.4	299.4

(END OF REPORT)