

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: P331245

Luminaire Tested: **SA2XXDIP-C290D330U835-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331245
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-C290D330U835-4F0-1E-UDD-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 330 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

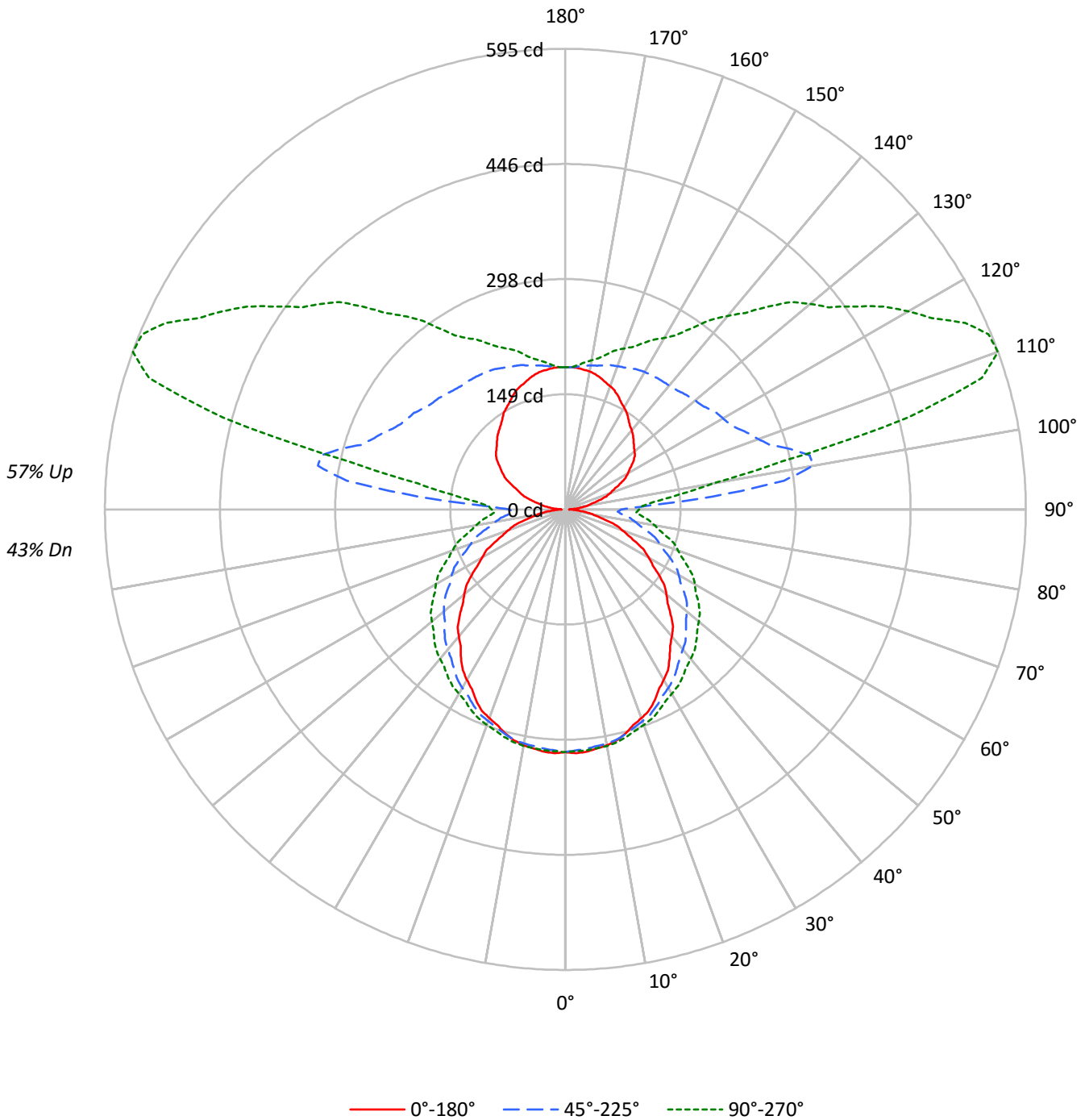
Lumens per Lamp: N/A
Luminaire Lumens: 2476.0 lumens
Efficiency: N/A
Efficacy: 122.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

Input Watts (W): 20.3
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



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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	0
RCR																		
0	105	105	105	105	96	96	96	96	79	79	79	64	64	64	50	50	50	43
1	95	90	86	82	86	82	79	75	68	65	62	54	52	51	42	41	39	34
2	86	78	71	66	78	71	65	61	59	54	51	47	44	41	36	34	32	27
3	78	68	60	54	71	62	55	50	51	46	42	41	37	34	32	29	27	22
4	71	60	52	45	64	55	48	42	45	40	35	36	32	29	28	25	23	19
5	65	53	45	39	59	49	41	36	40	35	30	32	28	25	25	22	20	16
6	60	47	39	33	54	44	36	31	36	30	26	29	25	22	23	19	17	14
7	55	43	35	29	50	39	32	27	33	27	23	26	22	19	21	17	15	12
8	51	39	31	25	47	36	29	24	30	24	20	24	20	17	19	16	13	11
9	48	35	28	22	43	32	26	21	27	22	18	22	18	15	17	14	12	10
10	44	32	25	20	40	30	23	19	25	20	16	20	16	13	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5062	5062	5062
5°	5086	4872	4853
10°	5054	4728	4675
15°	4983	4575	4487
20°	4896	4412	4306
25°	4810	4254	4140
30°	4687	4093	3976
35°	4563	3936	3860
40°	4433	3803	3743
45°	4308	3685	3644
50°	4176	3577	3546
55°	4035	3461	3447
60°	3865	3340	3342
65°	3686	3200	3215
70°	3487	3048	3081
75°	3236	2900	2956
80°	2836	2748	2829
85°	2454	2617	2731



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.7	1.2
10°-20°	85.2	3.4
20°-30°	129.1	5.2
30°-40°	157.2	6.3
40°-50°	169.1	6.8
50°-60°	164.2	6.6
60°-70°	143.4	5.8
70°-80°	110.4	4.5
80°-90°	75.7	3.1
90°-100°	124.5	5.0
100°-110°	286.6	11.6
110°-120°	289.5	11.7
120°-130°	231.8	9.4
130°-140°	180.8	7.3
140°-150°	133.3	5.4
150°-160°	93.0	3.8
160°-170°	54.7	2.2
170°-180°	17.8	0.7
0°-30°	243.9	9.9
0°-40°	401.1	16.2
0°-60°	734.5	29.7
0°-90°	1064.0	43.0
90°-120°	700.5	28.3
90°-150°	1246.4	50.3
90°-180°	1412.0	57.0
0°-180°	2476.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	314	314	314	314	314	
5°	314	313	310	313	312	30
15°	300	301	301	305	304	84
25°	273	276	280	285	287	125
35°	235	243	251	261	264	147
45°	193	205	221	234	239	149
55°	148	164	188	203	210	132
65°	101	123	150	168	174	100
75°	56	82	110	129	136	59
85°	16	45	74	92	99	18
90°	5	36	72	89	95	4
95°	16	56	191	121	115	16
105°	45	81	301	522	458	48
115°	78	104	246	492	570	77
125°	107	127	226	393	457	95
135°	125	149	213	322	370	97
145°	142	163	207	260	286	89
155°	162	174	201	227	236	74
165°	176	181	193	204	207	50
175°	183	184	185	187	187	17
180°	184	184	184	184	184	



TEST NUMBER: P331245

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5
2.5°	315.3	315.0	314.8	314.5	314.3	313.9	313.3	312.8	312.2	311.6	312.0
5°	314.4	314.1	313.8	313.5	313.1	312.7	312.1	311.5	310.9	310.3	310.9
7.5°	311.5	311.3	311.1	310.9	310.7	310.4	309.9	309.5	309.0	308.5	309.3
10°	309.4	309.2	309.0	308.8	308.6	308.3	308.0	307.7	307.4	307.1	307.9
12.5°	305.7	305.8	305.8	305.9	305.9	305.8	305.6	305.4	305.1	304.9	305.7
15°	299.8	300.0	300.2	300.4	300.6	300.7	300.7	300.7	300.7	300.7	301.6
17.5°	292.2	292.6	293.0	293.5	293.9	294.3	294.6	294.9	295.2	295.6	296.5
20°	287.1	287.6	288.1	288.6	289.1	289.6	290.0	290.4	290.8	291.2	292.3
22.5°	281.7	282.2	282.8	283.4	284.0	284.6	285.1	285.7	286.3	286.8	287.9
25°	272.6	273.3	274.0	274.7	275.4	276.2	277.1	278.0	278.9	279.8	281.0
27.5°	261.7	262.8	264.0	265.1	266.3	267.4	268.4	269.5	270.6	271.7	273.2
30°	254.4	255.7	257.0	258.3	259.6	261.0	262.3	263.6	264.9	266.2	267.8
32.5°	246.4	247.9	249.3	250.8	252.3	253.8	255.4	256.9	258.5	260.0	261.9
35°	234.9	236.6	238.3	240.0	241.7	243.5	245.5	247.4	249.3	251.2	253.4
37.5°	222.3	224.3	226.3	228.3	230.2	232.5	235.0	237.4	239.9	242.4	244.9
40°	214.0	216.2	218.4	220.6	222.8	225.3	228.0	230.8	233.5	236.2	238.8
42.5°	206.0	208.2	210.4	212.6	214.9	217.5	220.7	223.8	226.9	230.0	232.9
45°	192.6	195.3	198.1	200.8	203.5	206.6	210.2	213.7	217.2	220.8	223.9
47.5°	179.4	182.4	185.4	188.3	191.3	194.9	199.0	203.1	207.3	211.4	214.7
50°	170.4	173.5	176.6	179.7	182.9	186.7	191.3	195.8	200.3	204.9	208.3
52.5°	161.6	164.9	168.2	171.5	174.8	178.8	183.6	188.4	193.2	198.0	201.5
55°	147.6	151.3	154.9	158.5	162.2	166.6	171.9	177.1	182.4	187.6	191.3
57.5°	133.8	137.9	142.0	146.1	150.2	154.9	160.3	165.6	171.0	176.4	180.3
60°	124.0	128.4	132.7	137.0	141.4	146.4	152.2	157.9	163.7	169.4	173.3
62.5°	115.3	119.8	124.3	128.8	133.3	138.4	144.2	149.9	155.7	161.5	165.5
65°	100.8	105.8	110.7	115.7	120.6	126.1	132.0	138.0	144.0	149.9	154.1
67.5°	87.6	92.8	97.9	103.1	108.3	113.9	120.0	126.1	132.2	138.3	142.5
70°	78.1	83.4	88.6	93.9	99.1	104.9	111.1	117.4	123.7	129.9	134.3
72.5°	69.4	74.8	80.2	85.6	91.1	96.9	103.3	109.6	116.0	122.3	126.6
75°	55.9	61.5	67.2	72.8	78.5	84.5	91.0	97.5	103.9	110.4	114.7
77.5°	42.8	48.7	54.6	60.5	66.5	72.7	79.3	85.8	92.4	98.9	103.3
80°	34.1	40.2	46.4	52.5	58.7	65.1	71.6	78.2	84.7	91.3	95.5
82.5°	26.8	32.9	39.0	45.0	51.1	57.5	64.1	70.8	77.4	84.0	88.3
85°	16.4	22.6	28.9	35.1	41.4	47.7	54.2	60.7	67.1	73.6	77.8
87.5°	9.0	15.2	21.5	27.7	33.8	40.3	47.1	54.0	60.9	67.5	71.5
90°	4.9	11.8	19.1	25.6	32.2	39.4	47.6	56.6	65.2	72.0	75.7
92.5°	8.5	15.8	23.8	30.9	38.7	47.9	62.1	79.5	95.8	102.6	99.4
95°	16.0	22.2	30.4	38.4	48.8	62.6	84.9	121.7	168.8	190.7	177.3
97.5°	23.3	29.4	37.4	46.4	57.2	71.8	98.0	146.7	220.6	284.8	300.1
100°	30.4	35.2	42.1	51.5	62.3	76.9	101.3	150.0	232.0	324.6	379.2
102.5°	36.5	40.7	47.3	56.4	67.1	81.5	104.3	148.1	224.2	323.4	407.1
105°	45.4	49.7	55.1	63.3	74.0	88.0	109.9	146.6	210.1	300.9	398.4
107.5°	55.5	58.9	63.7	70.9	80.9	94.6	115.7	148.2	201.4	277.1	363.5
110°	61.9	65.3	69.5	76.1	85.5	99.2	119.7	150.1	198.2	265.3	341.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	68.1	71.2	75.3	81.3	90.1	103.9	123.6	152.3	196.1	256.5	325.6
115°	77.8	80.7	83.9	89.2	97.4	109.8	129.5	155.6	194.4	246.3	305.2
117.5°	87.4	89.5	92.3	96.8	104.3	116.7	135.0	159.4	193.6	239.3	290.8
120°	93.6	95.4	97.9	101.5	109.0	121.1	138.9	162.0	193.3	235.1	282.8
122.5°	99.5	100.8	103.1	106.7	113.9	126.1	142.8	164.3	193.3	231.8	275.7
125°	106.9	108.0	110.1	114.3	121.4	132.9	148.9	168.0	193.1	226.0	265.1
127.5°	113.1	114.4	117.3	121.9	128.6	140.0	154.9	171.8	193.5	221.6	255.3
130°	116.8	118.1	121.5	126.4	133.4	144.3	158.7	174.3	194.1	218.8	248.8
132.5°	120.2	121.8	125.5	130.6	137.9	148.5	162.0	176.8	194.6	216.3	243.1
135°	124.8	126.2	130.5	135.8	143.9	154.3	166.6	180.0	195.1	213.1	235.4
137.5°	129.6	131.3	135.5	141.2	149.2	158.6	170.2	182.2	195.5	210.4	229.1
140°	133.3	134.6	138.8	144.3	152.0	161.2	172.0	183.2	195.4	208.7	225.5
142.5°	137.0	138.0	141.9	147.4	154.8	163.4	173.8	184.5	195.7	207.9	222.4
145°	142.0	143.5	147.0	152.3	159.4	167.1	176.7	186.6	196.4	207.0	219.0
147.5°	148.0	149.0	152.4	157.3	163.2	170.1	179.1	187.8	196.7	205.8	215.8
150°	151.9	153.0	155.8	160.4	165.7	172.1	180.2	188.3	196.4	204.9	213.4
152.5°	155.9	156.4	159.2	163.2	168.3	174.0	181.3	188.6	195.9	203.5	211.4
155°	161.5	161.8	163.9	167.8	171.7	177.0	183.0	189.0	195.0	201.0	207.8
157.5°	166.1	166.5	168.2	171.6	174.7	179.1	184.2	189.0	193.4	198.5	204.3
160°	169.2	169.6	171.0	173.8	176.7	180.6	184.8	189.0	192.6	196.8	201.7
162.5°	172.4	172.1	173.6	175.8	178.4	181.4	185.1	188.7	191.7	195.4	199.5
165°	176.0	175.6	176.3	178.4	180.2	182.3	185.5	188.0	190.1	192.6	195.7
167.5°	178.9	178.5	179.1	180.5	181.8	183.1	185.4	187.5	188.5	190.1	192.1
170°	180.9	180.2	180.6	181.6	182.3	183.4	185.1	186.9	187.6	188.7	190.1
172.5°	182.0	181.6	181.4	182.5	182.9	183.7	184.9	186.1	186.5	187.0	188.1
175°	183.4	183.0	182.7	183.4	183.4	183.7	184.4	185.1	184.8	185.1	185.5
177.5°	184.0	183.4	183.2	183.7	183.7	183.7	184.0	184.6	184.0	183.7	184.0
180°	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7



TEST NUMBER: P331245

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5
2.5°	312.4	312.8	313.2	313.4	313.2	313.0	312.9	312.7
5°	311.5	312.1	312.7	312.9	312.8	312.7	312.6	312.5
7.5°	310.0	310.7	311.5	311.8	311.7	311.6	311.5	311.4
10°	308.7	309.5	310.3	310.7	310.6	310.5	310.4	310.3
12.5°	306.5	307.3	308.1	308.5	308.4	308.3	308.2	308.1
15°	302.5	303.5	304.4	304.8	304.7	304.6	304.5	304.4
17.5°	297.5	298.4	299.3	299.8	299.8	299.8	299.8	299.8
20°	293.4	294.5	295.6	296.2	296.2	296.2	296.2	296.2
22.5°	289.1	290.2	291.3	291.9	292.1	292.2	292.4	292.6
25°	282.3	283.5	284.7	285.4	285.7	286.0	286.3	286.6
27.5°	274.7	276.3	277.8	278.7	278.9	279.1	279.3	279.6
30°	269.4	271.1	272.7	273.6	273.9	274.2	274.5	274.8
32.5°	263.7	265.6	267.5	268.7	269.2	269.8	270.3	270.8
35°	255.7	257.9	260.1	261.6	262.3	263.0	263.7	264.4
37.5°	247.3	249.8	252.3	253.9	254.6	255.4	256.1	256.8
40°	241.5	244.1	246.7	248.5	249.4	250.3	251.2	252.1
42.5°	235.8	238.6	241.5	243.4	244.3	245.2	246.1	247.0
45°	227.0	230.2	233.3	235.4	236.4	237.4	238.4	239.4
47.5°	218.0	221.2	224.5	226.7	227.8	228.9	230.0	231.1
50°	211.7	215.2	218.6	220.9	222.0	223.1	224.2	225.3
52.5°	205.0	208.5	212.0	214.4	215.6	216.8	218.0	219.1
55°	194.9	198.5	202.2	204.6	205.9	207.3	208.6	209.9
57.5°	184.2	188.1	192.0	194.6	196.0	197.3	198.6	200.0
60°	177.1	181.0	184.8	187.4	188.8	190.2	191.7	193.1
62.5°	169.6	173.7	177.8	180.5	181.8	183.1	184.5	185.8
65°	158.2	162.3	166.5	169.2	170.5	171.8	173.1	174.4
67.5°	146.6	150.8	155.0	157.8	159.1	160.5	161.9	163.3
70°	138.6	142.9	147.3	150.1	151.3	152.5	153.7	154.9
72.5°	130.8	135.1	139.3	142.2	143.6	145.1	146.6	148.0
75°	119.1	123.4	127.8	130.6	131.9	133.2	134.5	135.8
77.5°	107.6	111.9	116.2	119.1	120.5	121.9	123.3	124.7
80°	99.8	104.0	108.3	111.1	112.5	113.9	115.3	116.7
82.5°	92.5	96.8	101.0	103.8	105.1	106.5	107.8	109.1
85°	82.1	86.3	90.6	93.4	94.8	96.2	97.6	99.0
87.5°	75.6	79.5	83.8	86.6	87.9	89.1	90.4	91.7
90°	79.3	82.7	87.4	90.4	91.6	92.8	94.0	95.2
92.5°	95.4	95.0	96.0	96.4	97.3	97.4	98.9	99.5
95°	152.5	134.8	123.8	118.5	115.1	113.5	113.7	115.2
97.5°	271.8	236.3	201.8	178.7	163.0	155.5	151.6	149.8
100°	375.5	335.4	290.7	250.4	222.2	208.1	199.0	193.7
102.5°	442.6	436.4	404.6	361.7	330.9	306.1	294.4	286.9
105°	475.4	518.9	527.0	517.7	496.9	476.1	462.0	458.2
107.5°	444.8	508.4	548.5	567.9	571.7	571.6	569.7	564.3
110°	419.5	485.9	534.4	565.5	581.8	589.7	593.9	594.7



TEST NUMBER: P331245

CATALOG NUMBER: SA2XXDIP-C290D330U835-4F0-1E-UDD-D4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	396.0	459.9	511.5	546.9	569.1	581.5	588.6	591.6
115°	366.5	423.9	473.3	511.7	537.9	555.3	565.6	569.9
117.5°	343.3	394.1	439.1	475.2	501.8	520.0	530.7	534.4
120°	331.2	377.9	418.1	452.3	478.1	495.8	507.2	511.8
122.5°	321.2	364.1	402.3	433.2	456.4	473.7	483.7	487.6
125°	306.4	345.5	379.3	407.6	429.0	443.4	453.1	456.9
127.5°	291.7	327.2	359.0	385.1	403.9	417.4	425.9	429.0
130°	282.3	315.1	345.5	370.4	388.5	401.3	409.2	412.8
132.5°	273.2	303.6	331.6	355.1	373.0	385.8	393.1	396.4
135°	260.5	285.9	311.3	332.6	348.6	361.1	368.2	370.4
137.5°	249.7	271.1	291.5	310.0	324.5	335.2	341.5	344.3
140°	243.0	261.6	279.4	296.1	308.0	317.8	323.7	326.4
142.5°	237.7	253.4	268.6	282.6	293.8	302.7	308.0	308.9
145°	230.5	242.8	254.3	265.1	274.1	280.6	284.7	286.2
147.5°	225.2	234.4	243.1	250.7	257.9	263.0	265.6	266.5
150°	221.9	229.7	237.1	243.4	248.7	253.0	255.1	255.5
152.5°	218.8	226.0	232.3	237.8	242.0	245.6	247.2	247.3
155°	214.5	220.1	225.4	229.3	233.2	235.7	237.1	236.4
157.5°	209.5	214.2	218.6	221.7	224.4	226.5	227.1	227.1
160°	206.3	210.2	214.1	216.6	219.1	220.8	221.2	221.2
162.5°	203.2	206.6	209.9	211.8	214.3	215.5	215.8	215.5
165°	198.6	201.0	203.5	204.9	206.3	207.8	207.8	207.4
167.5°	194.1	196.0	197.7	199.0	199.6	200.4	200.3	199.9
170°	191.9	192.9	194.3	195.0	195.4	196.4	196.1	195.4
172.5°	189.3	190.1	191.2	191.6	192.0	192.5	192.1	191.7
175°	186.6	186.9	187.3	187.6	187.6	188.0	187.6	186.9
177.5°	184.6	184.6	184.9	184.9	184.9	184.9	184.6	184.0
180°	183.7	183.7	183.7	183.7	183.7	183.7	183.7	183.7

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