

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: P331650-927

Luminaire Tested: **SA2XXRDIP-C485D330U927-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331650-927
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: SA2XXRDIP-C485D330U927-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 330 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

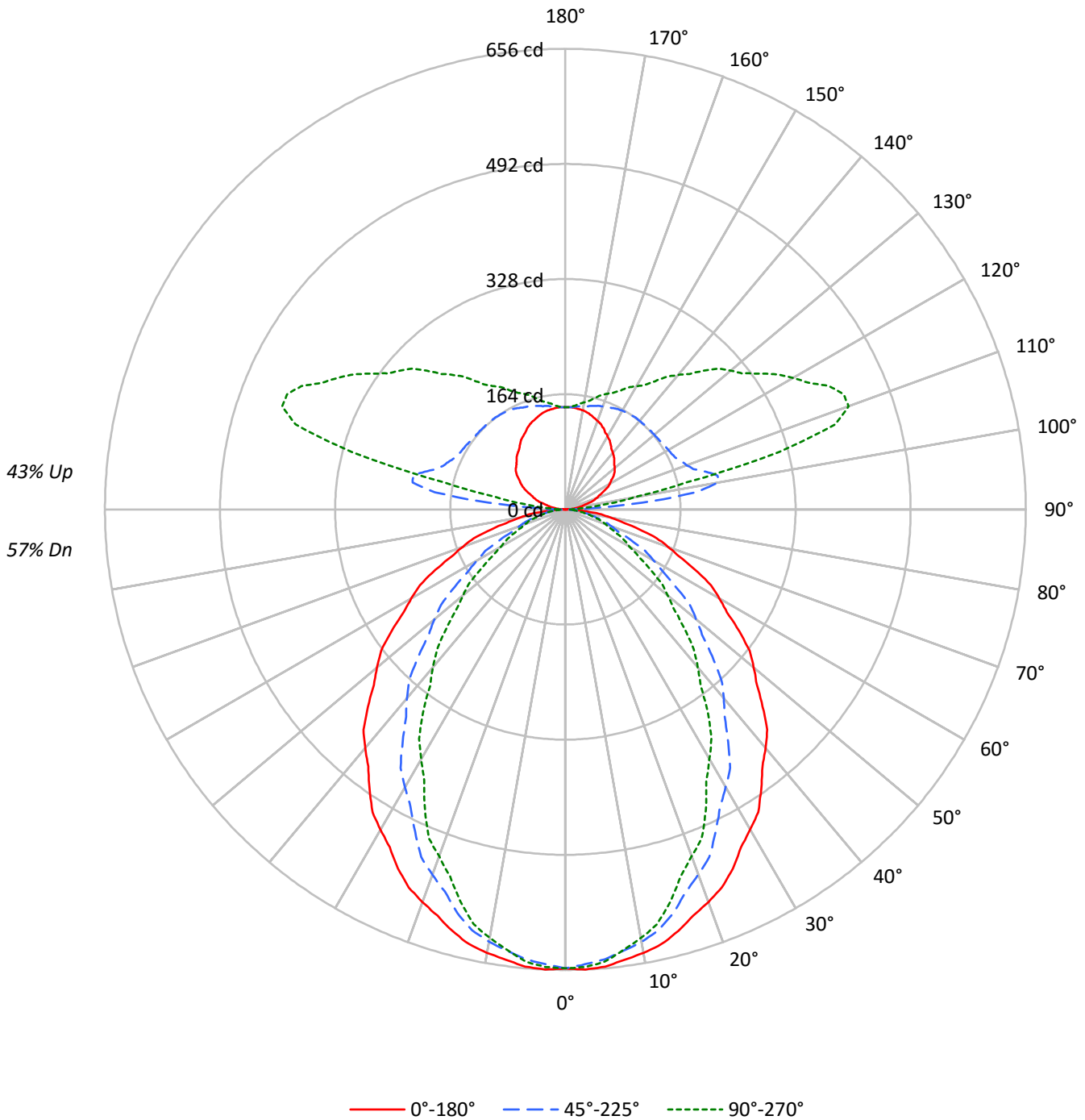
Lumens per Lamp: N/A
Luminaire Lumens: 2358.7 lumens
Efficiency: N/A
Efficacy: 85.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 27.5
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: P331650-927
CATALOG NUMBER: SA2XXRDIP-C485D330U927-4F0-1E-UDD-F4

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									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	50	30	10	50	30	10	50	30	10	0																
RCR	0	109	109	109	109	101	101	101	101	87	87	87	74	74	74	63	63	63	57																											
	1	100	96	92	89	93	89	86	83	77	75	73	66	65	63	56	55	54	49																											
	2	91	84	78	73	85	79	74	69	68	65	61	59	56	54	50	48	46	42																											
	3	84	75	67	62	78	70	64	58	61	56	52	53	49	46	45	42	40	36																											
	4	77	66	59	53	71	62	55	50	54	49	45	47	43	40	40	37	35	32																											
	5	71	59	52	46	66	56	49	43	49	43	39	43	38	35	37	33	31	28																											
	6	65	54	46	40	61	50	43	38	44	39	34	39	34	31	34	30	27	25																											
	7	61	49	41	35	57	46	39	34	40	35	31	35	31	28	31	27	25	22																											
	8	56	44	37	31	53	42	35	30	37	31	27	33	28	25	28	25	22	20																											
	9	53	41	33	28	49	38	32	27	34	29	25	30	26	22	26	23	20	18																											
	10	49	37	30	26	46	35	29	24	32	26	22	28	24	20	25	21	18	17																											

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10555	10555	10555
5°	10595	10423	10481
10°	10516	10252	10165
15°	10394	9949	9663
20°	10227	9514	9036
25°	10055	9021	8432
30°	9818	8516	7655
35°	9585	7965	6974
40°	9352	7396	6184
45°	9079	6754	5471
50°	8796	6106	4770
55°	8510	5413	4096
60°	8176	4682	3400
65°	7798	3931	3095
70°	7345	3238	2851
75°	6787	2951	2658
80°	5997	2641	2427
85°	4705	2075	2075



TEST NUMBER: P331650-927

CATALOG NUMBER: SA2XXRDIP-C485D330U927-4F0-1E-UDD-F4

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	61.2	2.6
10°-20°	168.0	7.1
20°-30°	235.9	10.0
30°-40°	257.3	10.9
40°-50°	236.6	10.0
50°-60°	185.8	7.9
60°-70°	121.1	5.1
70°-80°	62.5	2.6
80°-90°	17.5	0.7
90°-100°	58.2	2.5
100°-110°	197.5	8.4
110°-120°	209.8	8.9
120°-130°	172.7	7.3
130°-140°	138.7	5.9
140°-150°	104.8	4.4
150°-160°	73.7	3.1
160°-170°	43.4	1.8
170°-180°	14.1	0.6
0°-30°	465.2	19.7
0°-40°	722.4	30.6
0°-60°	1144.8	48.5
0°-90°	1345.9	57.1
90°-120°	465.5	19.7
90°-150°	881.7	37.4
90°-180°	1013.0	42.9
0°-180°	2358.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	654	654	654	654	654	
5°	654	650	643	648	647	62
15°	622	615	595	584	578	175
25°	564	544	506	483	473	259
35°	486	455	404	368	354	304
45°	398	357	296	255	240	307
55°	302	255	192	158	146	270
65°	204	156	103	84	81	202
75°	109	69	47	43	43	115
85°	25	14	11	11	11	30
90°	0	4	10	9	9	2
95°	10	24	110	41	32	10
105°	34	52	207	371	315	36
115°	60	76	174	358	415	60
125°	84	99	167	290	337	75
135°	98	118	165	244	279	76
145°	112	129	164	204	223	71
155°	128	138	159	180	187	59
165°	139	144	153	162	164	39
175°	145	145	147	148	148	14
180°	146	146	146	146	146	



TEST NUMBER: P331650-927

CATALOG NUMBER: SA2XXRDIP-C485D330U927-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	653.7	653.7	653.7	653.7	653.7	653.7	653.7	653.7	653.7	653.7	653.7
2.5°	656.1	655.6	655.1	654.5	654.0	653.2	652.0	650.9	649.7	648.6	649.6
5°	653.7	653.1	652.4	651.8	651.1	649.9	648.2	646.5	644.8	643.1	644.3
7.5°	647.0	646.2	645.4	644.5	643.7	642.3	640.3	638.3	636.4	634.4	634.7
10°	641.4	640.4	639.4	638.6	637.6	635.9	633.3	630.6	628.0	625.3	625.0
12.5°	634.2	633.1	631.9	630.8	629.7	627.5	624.1	620.8	617.3	614.0	613.3
15°	621.8	620.4	618.9	617.4	616.0	613.1	608.6	604.1	599.7	595.2	592.7
17.5°	606.6	604.4	602.1	599.9	597.7	593.7	588.0	582.3	576.6	570.8	567.8
20°	595.2	592.6	589.9	587.3	584.6	580.0	573.5	566.9	560.3	553.7	550.5
22.5°	582.9	580.0	576.9	574.0	571.1	565.9	558.5	551.0	543.7	536.2	532.0
25°	564.4	560.2	556.0	551.8	547.6	541.1	532.4	523.8	515.1	506.4	501.1
27.5°	542.2	537.6	533.0	528.5	523.9	516.7	506.9	497.1	487.4	477.5	471.3
30°	526.6	521.6	516.6	511.6	506.6	498.8	488.3	477.8	467.2	456.8	450.0
32.5°	511.4	505.6	499.7	493.9	488.1	479.7	469.1	458.3	447.6	436.9	429.2
35°	486.3	479.6	472.9	466.2	459.5	450.4	438.8	427.2	415.7	404.1	395.8
37.5°	461.2	453.8	446.5	439.1	431.8	421.9	409.6	397.3	384.9	372.6	363.5
40°	443.7	435.9	427.9	420.1	412.2	401.9	389.1	376.4	363.6	350.9	341.5
42.5°	425.7	417.4	409.1	400.8	392.5	381.8	368.6	355.4	342.2	329.1	319.4
45°	397.6	388.8	379.9	371.1	362.3	351.0	337.2	323.4	309.6	295.8	286.5
47.5°	370.1	360.8	351.5	342.1	332.8	321.0	306.7	292.5	278.2	264.0	254.7
50°	350.2	340.9	331.6	322.3	312.9	301.0	286.5	272.1	257.6	243.1	234.1
52.5°	330.8	321.1	311.3	301.6	291.8	279.9	265.7	251.6	237.4	223.3	214.5
55°	302.3	292.1	281.8	271.6	261.3	249.1	234.9	220.7	206.4	192.3	184.4
57.5°	273.1	262.6	252.1	241.5	231.0	219.0	205.3	191.6	178.0	164.4	157.1
60°	253.2	242.7	232.2	221.7	211.1	199.2	185.6	172.1	158.5	145.0	138.2
62.5°	233.8	223.3	212.8	202.2	191.7	180.1	167.2	154.2	141.3	128.4	122.0
65°	204.1	193.5	182.8	172.1	161.5	150.3	138.5	126.6	114.8	102.9	98.5
67.5°	175.5	164.9	154.3	143.8	133.2	122.6	111.9	101.3	90.6	80.0	78.0
70°	155.6	145.4	135.1	124.8	114.5	104.9	95.9	86.7	77.7	68.6	67.3
72.5°	136.7	126.8	117.0	107.2	97.4	88.8	81.5	74.2	66.9	59.7	58.5
75°	108.8	99.7	90.5	81.3	72.0	65.2	60.8	56.2	51.8	47.3	46.4
77.5°	81.5	73.4	65.4	57.3	49.3	44.1	42.0	39.8	37.6	35.5	34.9
80°	64.5	57.8	51.1	44.4	37.6	33.7	32.3	31.1	29.7	28.4	27.9
82.5°	48.9	43.6	38.4	33.2	28.0	24.9	24.0	23.1	22.2	21.3	21.0
85°	25.4	22.7	19.9	17.2	14.4	12.8	12.4	12.0	11.6	11.2	11.2
87.5°	7.6	7.0	6.3	5.6	4.9	4.6	4.9	5.3	5.6	5.7	5.5
90°	0.3	1.1	2.2	2.8	3.3	4.2	5.6	7.5	9.3	9.5	9.3
92.5°	3.4	4.9	7.0	8.2	10.1	12.7	19.0	28.0	35.9	36.4	30.7
95°	9.8	10.9	13.7	16.2	20.7	27.4	40.3	64.6	97.1	109.7	96.0
97.5°	15.9	17.4	20.4	24.2	29.4	37.0	53.2	87.1	141.1	187.3	196.5
100°	21.5	22.4	24.9	29.4	35.0	42.9	57.7	91.8	152.3	221.1	261.4
102.5°	26.7	27.3	29.9	34.3	40.2	48.0	61.7	92.1	148.0	222.2	285.6
105°	34.1	35.3	37.2	41.4	47.6	55.5	68.6	93.5	139.7	207.4	281.9
107.5°	42.2	43.1	45.0	48.9	55.0	62.9	75.7	97.4	135.5	191.5	257.3
110°	47.6	48.7	50.4	54.0	59.9	68.0	80.3	100.4	134.7	183.9	241.9



TEST NUMBER: P331650-927

CATALOG NUMBER: SA2XXRDIP-C485D330U927-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	52.5	53.6	55.5	58.9	64.6	73.0	84.8	103.9	134.8	179.0	231.1
115°	60.2	61.6	63.3	66.6	72.2	79.8	91.8	108.8	136.0	173.6	217.8
117.5°	68.1	69.2	70.9	73.9	79.3	87.1	98.2	114.2	138.1	170.9	209.4
120°	73.0	74.1	75.9	78.3	84.0	91.8	102.7	117.9	139.4	169.4	204.9
122.5°	77.8	78.7	80.3	83.1	88.6	96.7	106.9	121.0	140.9	168.4	201.1
125°	84.0	84.8	86.5	89.8	95.5	103.3	113.4	126.0	143.3	166.8	195.7
127.5°	88.9	90.0	92.4	96.1	101.4	109.5	119.3	130.6	145.7	165.9	190.6
130°	91.8	92.9	95.7	99.7	105.3	113.0	122.9	133.5	147.5	165.4	187.3
132.5°	94.5	95.9	98.9	103.0	108.8	116.7	126.0	136.4	149.3	165.2	184.6
135°	98.5	99.7	103.0	107.2	113.7	121.4	130.5	140.2	151.5	164.9	180.8
137.5°	102.3	103.7	107.0	111.5	117.9	125.2	134.0	143.1	153.4	164.8	178.2
140°	105.3	106.4	109.7	114.2	120.3	127.6	136.0	144.7	154.2	164.6	176.6
142.5°	108.1	109.1	112.2	116.7	122.6	129.4	137.6	146.1	154.9	164.6	175.1
145°	112.5	113.7	116.5	120.6	126.3	132.4	140.0	147.8	155.6	164.0	173.0
147.5°	117.2	118.0	120.7	124.6	129.3	134.8	141.9	148.8	155.8	163.0	170.9
150°	120.3	121.2	123.4	127.1	131.3	136.3	142.8	149.2	155.6	162.3	169.1
152.5°	123.5	123.9	126.1	129.3	133.3	137.8	143.6	149.4	155.2	161.2	167.5
155°	127.9	128.2	129.8	132.9	136.0	140.2	145.0	149.7	154.5	159.2	164.6
157.5°	131.6	131.9	133.2	135.9	138.4	141.9	145.9	149.7	153.2	157.2	161.8
160°	134.0	134.4	135.5	137.7	140.0	143.1	146.4	149.7	152.6	155.9	159.8
162.5°	136.6	136.3	137.5	139.3	141.3	143.7	146.6	149.5	151.9	154.8	158.0
165°	139.4	139.1	139.7	141.3	142.8	144.4	146.9	148.9	150.6	152.6	155.0
167.5°	141.7	141.4	141.9	143.0	144.0	145.0	146.9	148.5	149.3	150.6	152.2
170°	143.3	142.8	143.1	143.9	144.4	145.3	146.6	148.1	148.6	149.5	150.6
172.5°	144.2	143.9	143.7	144.6	144.9	145.5	146.5	147.4	147.7	148.1	149.0
175°	145.3	145.0	144.7	145.3	145.3	145.5	146.1	146.6	146.4	146.6	146.9
177.5°	145.8	145.3	145.1	145.5	145.5	145.5	145.8	146.2	145.8	145.5	145.8
180°	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5



TEST NUMBER: P331650-927

CATALOG NUMBER: SA2XXRDIP-C485D330U927-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	653.7	653.7	653.7	653.7	653.7	653.7	653.7	653.7
2.5°	650.6	651.7	652.8	653.2	653.0	652.8	652.5	652.4
5°	645.5	646.7	647.8	648.2	647.8	647.5	647.1	646.7
7.5°	635.0	635.3	635.7	635.6	634.9	634.1	633.5	632.8
10°	624.6	624.2	623.8	623.2	622.4	621.6	620.8	620.0
12.5°	612.6	611.9	611.2	610.1	608.8	607.5	606.2	604.9
15°	590.2	587.7	585.2	583.3	581.9	580.7	579.3	578.1
17.5°	564.8	561.9	558.9	556.3	554.1	551.8	549.5	547.2
20°	547.2	543.9	540.6	537.5	534.6	531.7	528.9	525.9
22.5°	527.8	523.6	519.4	516.1	514.0	511.8	509.7	507.5
25°	495.7	490.3	484.9	481.2	479.2	477.2	475.3	473.3
27.5°	465.0	458.7	452.4	447.7	444.6	441.5	438.3	435.2
30°	443.3	436.7	429.9	424.8	421.2	417.7	414.2	410.6
32.5°	421.5	413.9	406.2	400.8	397.4	394.1	390.7	387.4
35°	387.5	379.2	371.0	365.4	362.5	359.6	356.7	353.8
37.5°	354.3	345.2	336.1	329.9	326.6	323.3	320.0	316.6
40°	332.2	322.8	313.5	307.1	303.7	300.3	296.8	293.4
42.5°	309.7	300.1	290.5	284.0	280.7	277.3	274.0	270.7
45°	277.1	267.8	258.5	252.2	249.1	245.9	242.7	239.6
47.5°	245.4	236.1	226.9	220.8	217.9	215.1	212.1	209.3
50°	225.0	215.9	206.8	201.0	198.2	195.4	192.7	189.9
52.5°	205.7	197.0	188.2	182.6	180.1	177.5	174.9	172.4
55°	176.5	168.6	160.7	155.5	153.0	150.5	148.1	145.5
57.5°	149.9	142.7	135.5	130.8	128.7	126.6	124.5	122.3
60°	131.5	124.8	118.1	113.8	111.6	109.5	107.4	105.3
62.5°	115.6	109.2	102.8	99.0	97.8	96.5	95.2	94.0
65°	94.0	89.5	85.1	82.6	82.2	81.8	81.4	81.0
67.5°	75.9	73.8	71.8	70.6	70.1	69.7	69.3	68.8
70°	66.0	64.7	63.4	62.4	61.9	61.4	60.8	60.4
72.5°	57.4	56.3	55.2	54.5	54.2	53.9	53.6	53.2
75°	45.5	44.6	43.6	43.1	43.0	42.9	42.7	42.6
77.5°	34.5	33.9	33.4	33.0	32.8	32.6	32.4	32.2
80°	27.3	26.9	26.3	26.1	26.1	26.1	26.1	26.1
82.5°	20.7	20.4	20.0	19.9	19.9	19.9	19.9	19.9
85°	11.2	11.2	11.2	11.2	11.2	11.2	11.2	11.2
87.5°	5.4	5.1	5.1	5.1	5.1	5.1	5.1	5.1
90°	9.0	8.4	9.0	9.3	9.3	9.3	9.3	9.3
92.5°	24.4	20.9	18.6	16.9	16.6	15.8	15.9	15.5
95°	73.4	56.2	44.5	38.3	34.7	32.5	31.6	31.9
97.5°	171.1	140.0	109.7	89.5	76.1	69.2	65.2	62.8
100°	255.6	220.9	182.5	148.6	125.4	113.4	105.3	100.2
102.5°	310.9	303.0	275.0	239.1	213.8	193.3	183.2	176.3
105°	340.1	371.7	375.3	366.1	348.7	331.4	319.3	315.4
107.5°	319.0	366.7	395.8	409.3	411.5	410.6	408.1	403.0
110°	300.9	351.0	386.8	409.8	421.8	427.1	429.7	429.4



TEST NUMBER: P331650-927

CATALOG NUMBER: SA2XXRDIP-C485D330U927-4F0-1E-UDD-F4

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	284.3	332.4	370.7	397.0	413.8	422.6	427.4	428.9
115°	264.0	307.0	343.7	372.6	392.4	405.3	412.6	415.1
117.5°	248.6	286.5	319.7	346.7	367.0	380.6	388.2	390.4
120°	241.0	275.7	305.4	330.8	350.5	363.6	371.7	374.5
122.5°	235.0	266.7	294.9	317.8	335.4	348.4	355.6	357.9
125°	226.2	255.0	279.6	300.6	316.9	327.5	334.5	336.8
127.5°	217.5	243.6	266.8	286.1	300.3	310.3	316.3	318.1
130°	211.9	236.0	258.1	276.6	290.3	299.8	305.4	307.6
132.5°	206.5	228.8	249.1	266.5	280.0	289.5	294.6	296.7
135°	199.0	217.5	236.0	251.6	263.6	272.9	278.0	279.1
137.5°	193.1	208.5	223.2	236.8	247.8	255.7	260.2	261.8
140°	189.2	202.6	215.6	227.8	236.8	244.1	248.3	249.9
142.5°	186.1	197.5	208.6	218.9	227.4	234.0	237.7	238.1
145°	181.6	190.9	199.6	207.7	214.4	219.2	222.0	222.8
147.5°	178.2	185.5	192.3	198.2	203.7	207.6	209.5	210.0
150°	175.8	182.0	187.8	192.8	197.0	200.4	202.1	202.4
152.5°	173.3	179.0	184.0	188.4	191.7	194.6	195.8	195.9
155°	169.9	174.4	178.6	181.6	184.7	186.7	187.8	187.3
157.5°	166.0	169.7	173.2	175.6	177.8	179.4	179.9	179.9
160°	163.4	166.5	169.6	171.6	173.6	174.9	175.2	175.2
162.5°	161.0	163.7	166.3	167.8	169.8	170.7	171.0	170.7
165°	157.3	159.2	161.2	162.3	163.4	164.6	164.6	164.3
167.5°	153.8	155.3	156.6	157.6	158.1	158.8	158.7	158.4
170°	152.0	152.8	153.9	154.5	154.8	155.6	155.3	154.8
172.5°	150.0	150.6	151.5	151.8	152.1	152.5	152.2	151.9
175°	147.8	148.1	148.4	148.6	148.6	148.9	148.6	148.1
177.5°	146.2	146.2	146.5	146.5	146.5	146.5	146.2	145.8
180°	145.5	145.5	145.5	145.5	145.5	145.5	145.5	145.5

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