

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: P332502-927

Luminaire Tested: **S124DIP-S350D590U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332502-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIP-S350D590U927-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 590 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3012.1 lumens
Efficiency: N/A
Efficacy: 117.7 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

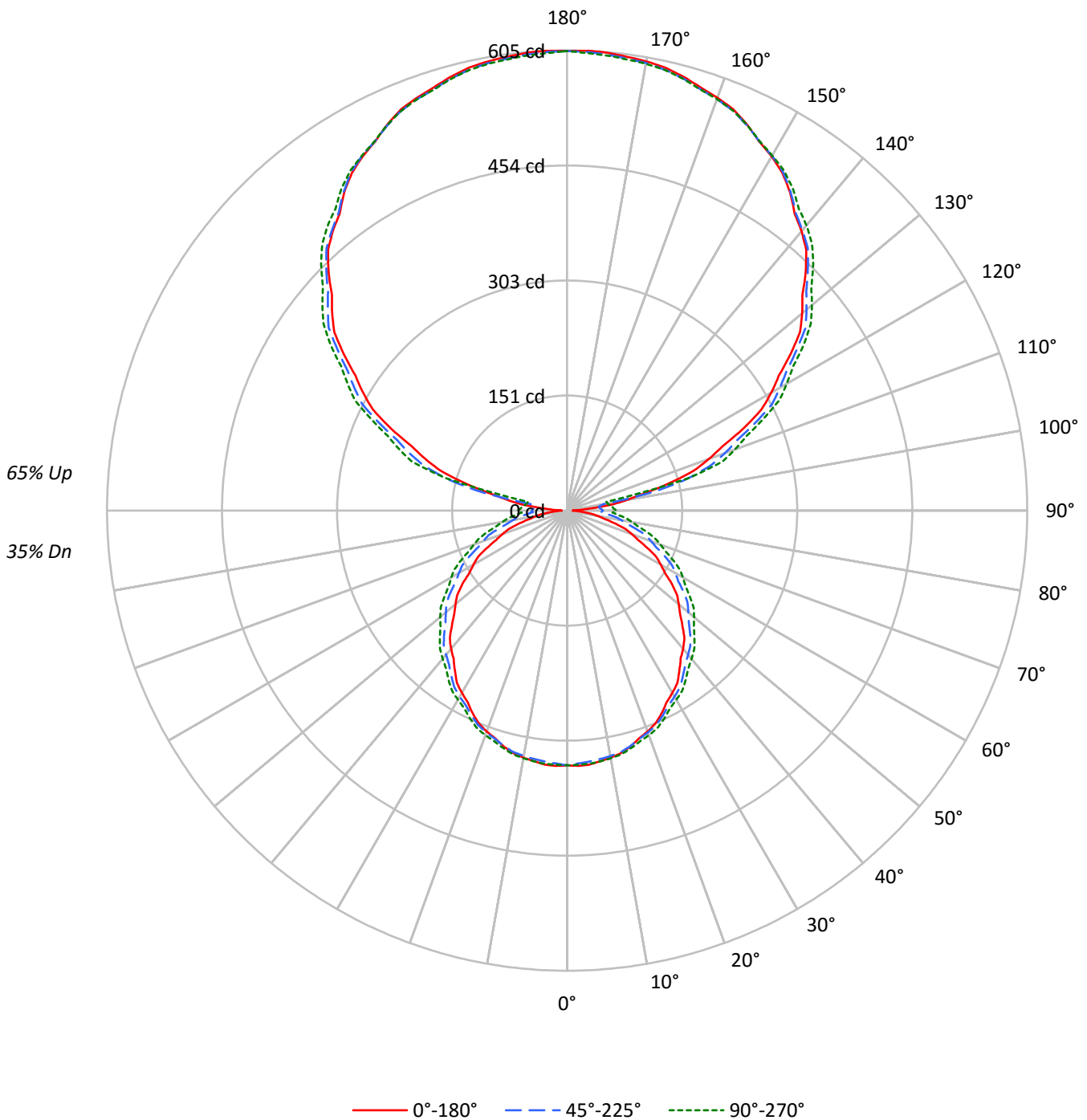
Input Watts (W): 25.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332502-927

CATALOG NUMBER: S124DIP-S350D590U927-4F0-1E-UDD-D

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	104	104	104	104	94	94	94	94	75	75	75	58	58	58	42	42	42	35
1	94	89	85	81	84	81	77	74	65	62	60	50	48	47	36	35	34	28
2	85	77	71	66	76	70	65	60	56	52	49	43	41	38	32	30	28	23
3	77	68	60	54	69	61	55	50	49	45	41	38	35	32	28	26	24	19
4	71	60	52	46	63	54	47	42	44	38	34	34	30	27	25	22	20	16
5	65	53	45	39	58	48	41	36	39	34	29	30	26	23	22	20	17	14
6	59	47	39	33	53	43	36	31	35	29	26	27	23	20	20	17	15	12
7	55	43	35	29	49	39	32	27	31	26	22	25	21	18	18	15	13	11
8	51	38	31	26	46	35	28	24	29	23	20	22	19	16	17	14	12	9
9	47	35	28	23	42	32	25	21	26	21	17	20	17	14	15	13	11	8
10	44	32	25	20	40	29	23	19	24	19	16	19	15	13	14	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2704	2704	2704
5°	2712	2641	2650
10°	2694	2599	2596
15°	2670	2549	2535
20°	2635	2494	2475
25°	2594	2432	2408
30°	2549	2370	2340
35°	2498	2307	2280
40°	2458	2247	2218
45°	2398	2191	2164
50°	2348	2128	2108
55°	2296	2068	2042
60°	2214	1991	1982
65°	2125	1909	1908
70°	2018	1816	1820
75°	1867	1712	1743
80°	1701	1613	1665
85°	1489	1525	1621



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	31.7	1.1
10°-20°	90.8	3.0
20°-30°	137.4	4.6
30°-40°	166.2	5.5
40°-50°	175.7	5.8
50°-60°	165.4	5.5
60°-70°	137.2	4.6
70°-80°	96.4	3.2
80°-90°	56.2	1.9
90°-100°	53.0	1.8
100°-110°	155.7	5.2
110°-120°	268.1	8.9
120°-130°	329.0	10.9
130°-140°	346.2	11.5
140°-150°	320.9	10.7
150°-160°	258.1	8.6
160°-170°	166.5	5.5
170°-180°	57.4	1.9
0°-30°	259.9	8.6
0°-40°	426.1	14.1
0°-60°	767.2	25.5
0°-90°	1057.0	35.1
90°-120°	476.8	15.8
90°-150°	1473.0	48.9
90°-180°	1955.0	64.9
0°-180°	3012.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	335	335	335	335	335	
5°	335	334	331	334	334	32
15°	321	322	321	324	324	90
25°	294	296	297	301	302	135
35°	257	262	266	270	272	161
45°	214	222	229	235	237	166
55°	168	176	187	194	197	150
65°	116	128	141	150	153	115
75°	64	78	94	104	108	69
85°	20	36	52	63	68	21
90°	7	27	47	60	65	5
95°	30	28	42	55	59	36
105°	139	150	166	178	166	146
115°	256	261	272	281	284	252
125°	358	360	368	377	380	320
135°	444	443	448	454	458	342
145°	511	512	512	515	517	319
155°	560	560	559	561	559	258
165°	591	588	588	592	588	167
175°	604	602	602	605	601	58
180°	604	604	604	604	604	



TEST NUMBER: P332502-927

CATALOG NUMBER: S124DIP-S350D590U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9
2.5°	336.0	335.8	335.6	335.4	335.3	334.9	334.4	333.8	333.3	332.7	333.2
5°	335.3	334.9	334.7	334.5	334.2	333.8	333.2	332.6	332.1	331.4	332.2
7.5°	332.4	332.2	332.1	331.9	331.8	331.4	331.0	330.5	330.0	329.5	330.3
10°	329.9	329.9	329.8	329.7	329.6	329.4	329.0	328.5	328.1	327.7	328.4
12.5°	326.7	326.6	326.6	326.6	326.6	326.5	326.1	325.9	325.6	325.3	326.0
15°	321.3	321.5	321.5	321.6	321.7	321.6	321.3	321.1	320.8	320.6	321.3
17.5°	314.1	314.3	314.6	314.8	315.1	315.2	315.1	315.1	315.1	315.0	315.8
20°	309.0	309.2	309.5	309.7	310.0	310.1	310.2	310.3	310.4	310.5	311.3
22.5°	303.2	303.6	303.9	304.2	304.5	304.8	304.9	305.1	305.2	305.4	306.2
25°	294.0	294.5	295.0	295.5	296.0	296.4	296.6	296.8	297.1	297.4	298.3
27.5°	283.6	284.4	285.1	285.8	286.5	287.1	287.5	287.9	288.3	288.7	289.5
30°	276.7	277.4	278.1	278.7	279.4	280.0	280.6	281.1	281.8	282.3	283.3
32.5°	269.3	270.1	270.8	271.6	272.4	273.1	273.8	274.4	275.1	275.8	276.8
35°	257.2	258.3	259.2	260.2	261.3	262.1	263.0	263.8	264.7	265.5	266.6
37.5°	245.2	246.3	247.5	248.6	249.8	250.8	251.9	252.9	254.0	255.0	256.2
40°	237.3	238.4	239.6	240.6	241.7	242.8	244.0	245.2	246.3	247.5	248.7
42.5°	228.4	229.6	230.8	232.0	233.2	234.5	235.9	237.3	238.6	240.0	241.4
45°	214.4	216.0	217.6	219.2	220.8	222.4	223.9	225.5	227.1	228.7	230.1
47.5°	201.2	202.9	204.5	206.1	207.7	209.5	211.3	213.2	215.0	216.8	218.2
50°	191.6	193.5	195.3	197.1	198.9	200.7	202.6	204.5	206.3	208.1	209.8
52.5°	182.0	183.9	185.7	187.5	189.3	191.3	193.4	195.5	197.6	199.7	201.4
55°	168.0	169.8	171.5	173.3	175.0	177.1	179.6	182.1	184.6	187.1	188.8
57.5°	152.3	154.5	156.6	158.8	161.0	163.3	165.8	168.3	170.7	173.3	175.2
60°	142.1	144.3	146.5	148.6	150.8	153.2	156.0	158.8	161.4	164.2	166.1
62.5°	132.2	134.6	137.0	139.3	141.6	144.3	146.9	149.7	152.5	155.3	157.2
65°	116.2	118.9	121.6	124.2	126.9	129.7	132.5	135.3	138.2	141.0	143.1
67.5°	100.8	103.7	106.5	109.4	112.2	115.1	118.2	121.2	124.2	127.2	129.4
70°	90.4	93.2	96.0	98.9	101.7	104.7	107.9	111.1	114.2	117.4	119.6
72.5°	80.2	83.1	86.0	88.9	91.7	94.9	98.2	101.6	105.0	108.4	110.5
75°	64.5	67.6	70.7	73.8	76.8	80.1	83.7	87.1	90.6	94.1	96.5
77.5°	49.9	53.2	56.4	59.7	62.9	66.4	70.0	73.8	77.4	81.0	83.4
80°	40.9	44.2	47.5	50.9	54.2	57.7	61.4	65.0	68.7	72.4	74.9
82.5°	31.8	35.3	38.8	42.3	45.7	49.3	53.0	56.6	60.3	64.0	66.5
85°	19.9	23.4	26.9	30.3	33.9	37.5	41.3	45.0	48.7	52.5	55.0
87.5°	11.4	15.0	18.6	22.3	25.8	29.5	33.4	37.2	41.0	44.8	47.4
90°	7.4	11.8	16.2	20.7	25.1	29.5	33.9	38.3	42.7	47.1	50.1
92.5°	11.4	14.4	17.5	20.6	23.6	27.3	31.8	36.1	40.5	44.9	47.8
95°	29.7	29.1	28.4	27.7	27.1	28.5	32.0	35.6	39.1	42.5	45.4
97.5°	57.2	61.7	66.2	70.7	75.2	73.5	65.7	57.9	50.1	42.2	44.4
100°	78.3	82.2	86.2	90.2	94.1	90.8	80.2	69.6	59.0	48.4	49.0
102.5°	102.1	105.3	108.5	111.8	115.0	117.3	118.7	120.0	121.4	122.8	106.5
105°	139.4	141.6	143.9	146.2	148.5	151.4	155.0	158.6	162.2	165.7	168.7
107.5°	174.7	176.3	178.0	179.7	181.3	183.9	187.6	191.2	194.7	198.4	200.8
110°	198.2	199.7	201.1	202.6	204.1	206.6	210.1	213.7	217.1	220.6	222.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	221.0	222.6	224.2	225.8	227.4	229.7	232.7	235.8	238.8	241.9	243.8
115°	256.2	257.2	258.3	259.4	260.4	262.2	264.7	267.4	269.9	272.5	274.5
117.5°	288.2	289.1	289.9	290.8	291.6	293.4	296.1	298.8	301.5	304.2	305.9
120°	309.6	310.2	310.9	311.6	312.2	313.7	316.0	318.3	320.7	323.0	324.8
122.5°	329.9	330.1	330.4	330.7	331.1	332.4	334.8	337.2	339.6	342.1	343.9
125°	358.5	358.8	359.1	359.4	359.7	360.8	362.7	364.6	366.5	368.4	370.3
127.5°	385.9	385.9	386.0	386.0	386.0	387.0	389.0	391.1	393.2	395.2	396.6
130°	403.3	403.3	403.3	403.4	403.4	404.2	405.8	407.5	409.1	410.7	412.3
132.5°	419.5	419.7	419.8	419.9	419.9	420.7	422.2	423.7	425.1	426.5	428.0
135°	443.6	443.5	443.4	443.3	443.2	443.6	444.7	445.6	446.6	447.6	449.1
137.5°	465.2	465.2	465.1	465.1	465.0	465.3	466.1	466.8	467.5	468.3	469.7
140°	479.3	479.4	479.5	479.7	479.7	480.0	480.2	480.5	480.9	481.1	482.5
142.5°	491.6	492.0	492.3	492.7	493.1	493.2	493.3	493.4	493.5	493.5	494.7
145°	511.0	511.2	511.4	511.7	511.9	512.0	512.0	512.0	512.0	512.0	512.6
147.5°	526.5	527.0	527.4	527.9	528.4	528.5	528.5	528.4	528.2	528.1	528.3
150°	537.7	538.0	538.3	538.6	538.9	539.1	538.9	538.8	538.8	538.6	538.6
152.5°	546.8	547.1	547.4	547.6	548.0	548.0	547.9	547.7	547.5	547.3	547.5
155°	559.9	560.0	560.1	560.2	560.3	560.2	559.9	559.6	559.3	559.0	559.4
157.5°	571.0	570.9	570.8	570.8	570.8	570.5	570.2	569.9	569.5	569.2	569.7
160°	577.5	577.2	576.9	576.6	576.3	576.1	576.0	575.9	575.8	575.7	576.3
162.5°	583.3	582.9	582.5	582.2	581.8	581.5	581.4	581.3	581.2	581.1	581.7
165°	590.6	590.1	589.6	589.1	588.6	588.4	588.4	588.4	588.4	588.4	589.1
167.5°	596.4	595.9	595.3	594.8	594.3	594.0	594.0	593.9	593.8	593.7	594.7
170°	599.7	599.0	598.4	597.9	597.2	597.0	597.1	597.1	597.3	597.4	598.2
172.5°	601.8	601.2	600.6	600.0	599.4	599.1	599.3	599.4	599.4	599.5	600.4
175°	604.2	603.6	602.9	602.4	601.7	601.5	601.6	601.7	601.8	601.9	602.8
177.5°	605.2	604.7	604.1	603.6	603.0	602.8	602.9	603.1	603.2	603.4	604.1
180°	604.2	604.2	604.2	604.2	604.2	604.2	604.2	604.2	604.2	604.2	604.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	334.9	334.9	334.9	334.9	334.9	334.9	334.9	334.9
2.5°	333.7	334.1	334.6	334.8	334.8	334.7	334.6	334.5
5°	332.8	333.4	334.1	334.5	334.4	334.2	334.1	334.1
7.5°	331.1	331.8	332.6	332.9	332.8	332.7	332.6	332.6
10°	329.2	329.9	330.7	331.1	331.0	330.9	330.8	330.7
12.5°	326.7	327.4	328.0	328.4	328.4	328.4	328.4	328.3
15°	322.1	322.8	323.6	323.9	323.8	323.8	323.7	323.6
17.5°	316.5	317.3	318.1	318.4	318.3	318.2	318.2	318.1
20°	312.1	313.0	313.8	314.3	314.3	314.3	314.3	314.3
22.5°	307.0	307.8	308.7	309.2	309.3	309.4	309.6	309.7
25°	299.2	300.1	301.0	301.5	301.6	301.7	301.7	301.8
27.5°	290.3	291.2	292.1	292.6	292.6	292.7	292.8	292.9
30°	284.2	285.1	286.0	286.5	286.7	286.9	287.1	287.2
32.5°	277.8	278.9	280.0	280.6	280.7	280.9	281.1	281.2
35°	267.8	268.9	270.1	270.8	271.1	271.3	271.6	271.9
37.5°	257.4	258.5	259.7	260.5	260.7	260.9	261.3	261.5
40°	250.0	251.2	252.5	253.3	253.6	254.0	254.3	254.6
42.5°	242.7	244.2	245.5	246.4	246.6	246.8	247.2	247.4
45°	231.6	233.0	234.4	235.3	235.8	236.1	236.5	236.9
47.5°	219.8	221.2	222.7	223.6	224.2	224.7	225.1	225.7
50°	211.4	213.1	214.8	215.9	216.3	216.8	217.4	217.9
52.5°	203.0	204.7	206.4	207.5	207.9	208.4	209.0	209.5
55°	190.4	192.1	193.8	194.9	195.4	195.8	196.4	196.9
57.5°	177.2	179.2	181.2	182.4	182.8	183.3	183.8	184.3
60°	168.1	170.0	171.9	173.2	173.9	174.5	175.2	175.9
62.5°	159.1	161.0	162.9	164.2	164.9	165.5	166.2	166.8
65°	145.1	147.3	149.3	150.7	151.4	152.0	152.7	153.4
67.5°	131.5	133.6	135.7	137.1	137.8	138.4	139.0	139.7
70°	121.8	124.1	126.4	127.8	128.3	129.0	129.5	130.1
72.5°	112.7	114.9	117.1	118.5	119.1	119.8	120.5	121.1
75°	98.8	101.1	103.5	105.0	105.8	106.5	107.3	108.0
77.5°	85.8	88.2	90.5	92.1	92.9	93.7	94.5	95.3
80°	77.4	79.9	82.4	84.0	84.6	85.3	86.0	86.6
82.5°	69.1	71.7	74.2	75.9	76.6	77.3	78.1	78.8
85°	57.5	60.0	62.5	64.2	65.0	65.8	66.6	67.5
87.5°	49.9	52.4	55.0	56.6	57.4	58.1	58.9	59.7
90°	53.1	56.1	59.2	61.1	61.9	62.8	63.7	64.6
92.5°	50.8	53.8	56.7	58.5	59.3	60.0	60.7	61.4
95°	48.2	51.1	53.9	55.8	56.6	57.5	58.4	59.3
97.5°	46.7	49.0	51.2	52.8	53.6	54.3	55.2	56.0
100°	49.4	50.0	50.5	51.2	51.8	52.5	53.2	53.9
102.5°	90.3	74.1	57.8	50.1	50.8	51.4	52.1	52.8
105°	171.7	174.7	177.7	177.7	174.8	171.8	168.9	165.9
107.5°	203.4	205.8	208.3	210.1	211.0	212.0	213.0	214.0
110°	224.9	227.0	229.1	230.7	231.6	232.6	233.5	234.6



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CATALOG NUMBER: S124DIP-S350D590U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	245.6	247.3	249.1	250.6	251.7	252.7	253.7	254.8
115°	276.6	278.6	280.6	281.9	282.5	283.1	283.7	284.2
117.5°	307.6	309.3	311.0	312.1	312.8	313.4	314.0	314.7
120°	326.7	328.6	330.4	331.6	332.1	332.6	333.0	333.4
122.5°	345.6	347.5	349.2	350.3	350.7	351.1	351.5	351.9
125°	372.2	374.1	375.9	377.2	377.8	378.3	379.0	379.5
127.5°	398.2	399.6	401.0	402.0	402.4	402.9	403.5	403.9
130°	413.9	415.5	417.2	418.2	418.7	419.1	419.7	420.2
132.5°	429.6	431.1	432.7	433.6	434.0	434.5	434.9	435.3
135°	450.7	452.2	453.7	454.8	455.5	456.2	456.9	457.6
137.5°	471.1	472.5	474.0	474.9	475.2	475.6	475.9	476.3
140°	483.9	485.3	486.6	487.6	488.1	488.6	489.2	489.6
142.5°	495.8	497.0	498.2	499.0	499.3	499.7	500.1	500.4
145°	513.2	513.8	514.4	514.9	515.5	516.0	516.6	517.1
147.5°	528.5	528.6	528.8	529.0	529.3	529.7	530.1	530.4
150°	538.6	538.6	538.6	538.7	538.8	538.9	539.0	539.1
152.5°	547.6	547.8	548.0	548.0	548.0	547.9	547.8	547.8
155°	559.8	560.2	560.5	560.6	560.3	560.0	559.8	559.4
157.5°	570.2	570.8	571.2	571.2	570.8	570.2	569.7	569.2
160°	576.9	577.5	578.1	578.1	577.5	576.9	576.3	575.7
162.5°	582.3	582.9	583.5	583.5	582.8	582.1	581.5	580.7
165°	589.9	590.7	591.6	591.5	590.6	589.7	588.8	587.9
167.5°	595.6	596.4	597.3	597.2	596.3	595.2	594.2	593.3
170°	599.0	599.8	600.6	600.5	599.5	598.5	597.5	596.5
172.5°	601.2	602.0	602.8	602.6	601.6	600.5	599.4	598.3
175°	603.7	604.6	605.5	605.4	604.2	602.9	601.7	600.6
177.5°	604.8	605.4	606.0	605.9	604.9	604.0	602.9	602.0
180°	604.2	604.2	604.2	604.2	604.2	604.2	604.2	604.2

(END OF REPORT)