

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: P332875-927

Luminaire Tested: **S124RDIP-S350D590U927-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

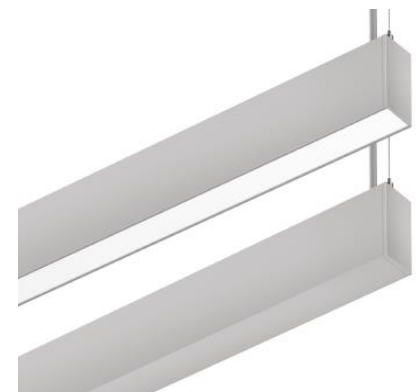
Test Information

Test Method: LM-79-08
Report Number: P332875-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIP-S350D590U927-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 590 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2754.0 lumens
Efficiency: N/A
Efficacy: 107.6 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: General Diffuse

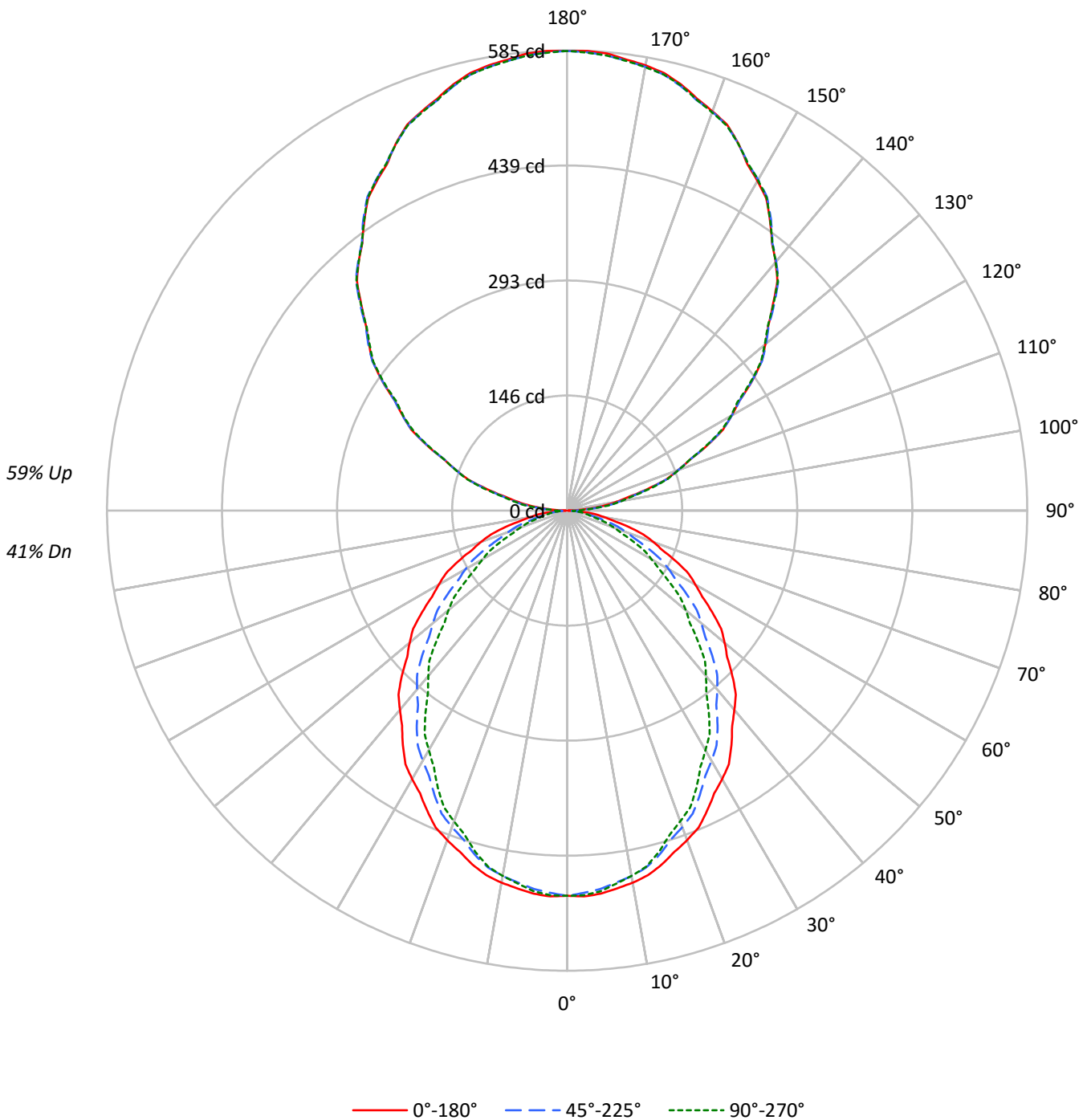
Input Watts (W): 25.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	105	105	105	105	96	96	96	96	78	78	78	63	63	63	48	48	48	41				
1	96	92	88	85	87	84	81	78	69	67	65	55	54	52	43	42	41	35				
2	88	80	74	69	80	74	68	64	61	57	54	49	46	44	38	36	35	30				
3	80	71	64	58	73	65	59	54	54	49	46	43	40	38	34	32	30	25				
4	73	63	55	49	67	58	51	46	48	43	39	39	35	32	30	28	26	22				
5	67	56	48	42	61	51	44	39	43	38	34	35	31	28	27	25	23	19				
6	62	50	42	37	56	46	39	34	39	33	29	31	28	25	25	22	20	17				
7	57	45	38	32	52	42	35	30	35	30	26	29	25	22	23	20	18	15				
8	53	41	34	28	48	38	31	27	32	27	23	26	22	19	21	18	16	14				
9	49	38	30	25	45	35	28	24	29	24	21	24	20	18	19	17	14	12				
10	46	34	27	23	42	32	26	21	27	22	19	22	19	16	18	15	13	11				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3953	3953	3953
5°	3962	3914	3938
10°	3937	3867	3867
15°	3892	3786	3758
20°	3830	3679	3611
25°	3751	3553	3463
30°	3674	3422	3278
35°	3588	3286	3094
40°	3485	3130	2893
45°	3391	2975	2689
50°	3282	2798	2473
55°	3167	2612	2238
60°	3039	2409	1997
65°	2923	2157	1761
70°	2752	1876	1496
75°	2539	1556	1216
80°	2213	1186	1116
85°	1880	1074	1010



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.0	1.7
10°-20°	128.3	4.7
20°-30°	185.2	6.7
30°-40°	210.0	7.6
40°-50°	202.8	7.4
50°-60°	168.6	6.1
60°-70°	116.4	4.2
70°-80°	59.0	2.1
80°-90°	16.9	0.6
90°-100°	38.5	1.4
100°-110°	114.1	4.1
110°-120°	193.7	7.0
120°-130°	255.5	9.3
130°-140°	286.9	10.4
140°-150°	281.9	10.2
150°-160°	237.1	8.6
160°-170°	157.8	5.7
170°-180°	55.2	2.0
0°-30°	359.5	13.1
0°-40°	569.5	20.7
0°-60°	940.8	34.2
0°-90°	1133.2	41.1
90°-120°	346.4	12.6
90°-150°	1170.7	42.5
90°-180°	1621.0	58.9
0°-180°	2754.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	490	490	490	490	490	
5°	489	487	483	486	486	46
15°	466	462	453	452	450	131
25°	421	414	399	393	389	194
35°	364	352	333	321	314	227
45°	297	283	261	243	236	229
55°	225	209	186	167	159	201
65°	153	136	113	97	92	151
75°	81	67	50	42	39	86
85°	20	13	12	11	11	23
90°	1	6	10	13	14	3
95°	27	31	34	36	36	30
105°	105	106	108	109	110	112
115°	197	197	196	196	195	194
125°	287	287	286	286	285	256
135°	370	373	373	372	370	286
145°	450	451	452	451	450	281
155°	515	515	515	516	515	237
165°	561	559	558	561	559	158
175°	583	581	581	583	581	55
180°	584	584	584	584	584	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7
2.5°	490.9	490.6	490.4	490.1	489.8	489.3	488.6	487.9	487.1	486.4	487.1
5°	488.9	488.6	488.3	488.0	487.6	487.0	485.9	485.0	483.9	483.0	483.8
7.5°	484.5	484.2	483.9	483.5	483.2	482.3	481.0	479.7	478.4	477.1	477.6
10°	480.3	479.9	479.5	479.1	478.6	477.7	476.2	474.7	473.2	471.7	472.1
12.5°	474.9	474.4	474.0	473.5	473.0	471.9	470.1	468.3	466.6	464.8	465.0
15°	465.7	464.9	464.2	463.4	462.7	461.3	459.2	457.1	455.0	453.0	452.8
17.5°	454.6	453.4	452.3	451.3	450.2	448.4	445.9	443.4	440.9	438.4	437.9
20°	445.8	444.7	443.7	442.6	441.5	439.6	436.7	433.9	431.0	428.2	427.5
22.5°	436.3	435.0	433.8	432.6	431.3	429.2	426.2	423.2	420.2	417.1	416.1
25°	421.1	419.6	418.1	416.6	415.1	412.6	409.2	405.8	402.3	398.9	397.5
27.5°	405.2	403.3	401.4	399.6	397.7	394.9	391.3	387.6	384.0	380.3	378.5
30°	394.1	392.0	389.9	387.9	385.8	382.8	378.8	374.9	371.0	367.1	365.0
32.5°	382.4	380.0	377.7	375.3	373.0	369.8	365.8	361.7	357.7	353.6	351.2
35°	364.1	361.4	358.8	356.1	353.4	350.0	345.9	341.7	337.5	333.4	330.5
37.5°	344.5	341.7	339.1	336.3	333.5	329.9	325.2	320.6	316.0	311.4	308.2
40°	330.7	328.0	325.2	322.5	319.7	316.0	311.2	306.5	301.7	297.0	293.5
42.5°	317.5	314.7	311.7	308.9	306.0	302.1	297.1	292.2	287.2	282.3	278.7
45°	297.0	293.9	290.8	287.7	284.6	280.6	275.6	270.6	265.6	260.6	256.5
47.5°	275.8	272.6	269.4	266.2	263.0	258.8	253.7	248.4	243.2	238.1	233.8
50°	261.3	258.1	254.8	251.6	248.3	244.1	238.8	233.4	228.1	222.8	218.6
52.5°	246.7	243.4	240.3	237.1	233.9	229.6	224.1	218.6	213.2	207.7	203.5
55°	225.0	221.7	218.3	215.0	211.7	207.2	201.8	196.5	191.0	185.6	181.3
57.5°	203.5	200.0	196.6	193.1	189.6	185.3	179.9	174.6	169.3	163.9	159.5
60°	188.2	184.9	181.6	178.2	174.9	170.6	165.2	159.9	154.6	149.2	144.9
62.5°	174.4	171.0	167.5	164.1	160.6	156.1	150.7	145.2	139.7	134.3	130.2
65°	153.0	149.4	145.8	142.3	138.6	134.2	128.9	123.5	118.2	112.9	109.3
67.5°	130.7	127.3	123.8	120.4	117.0	112.8	107.8	102.9	97.9	93.0	89.9
70°	116.6	113.1	109.6	106.2	102.6	98.5	93.7	89.0	84.2	79.5	76.8
72.5°	101.6	98.5	95.3	92.1	89.0	85.2	80.6	76.1	71.7	67.2	64.9
75°	81.4	78.3	75.2	72.1	69.0	65.5	61.6	57.7	53.8	49.9	47.9
77.5°	60.8	58.2	55.6	53.0	50.4	47.5	44.3	41.1	37.9	34.8	33.7
80°	47.6	45.2	42.8	40.4	37.9	35.5	33.0	30.5	28.0	25.5	25.3
82.5°	36.2	34.0	31.8	29.5	27.3	25.5	24.1	22.7	21.2	19.8	19.6
85°	20.3	18.6	17.0	15.2	13.5	12.6	12.4	12.1	11.9	11.6	11.5
87.5°	7.2	6.9	6.6	6.3	5.9	5.8	5.9	6.0	6.1	6.2	6.3
90°	1.3	2.5	3.6	4.7	5.8	6.7	7.5	8.3	9.1	9.9	10.5
92.5°	9.7	10.9	12.2	13.5	14.7	15.6	16.2	16.8	17.3	17.9	18.2
95°	27.1	28.0	28.9	29.8	30.7	31.5	32.2	33.0	33.7	34.3	34.6
97.5°	47.4	48.1	48.8	49.5	50.2	51.0	51.8	52.7	53.5	54.3	54.7
100°	63.2	63.7	64.1	64.5	64.9	65.5	66.4	67.3	68.2	69.2	69.3
102.5°	79.9	80.0	80.2	80.3	80.5	81.0	81.8	82.6	83.5	84.3	84.6
105°	105.3	105.4	105.4	105.6	105.7	105.9	106.3	106.7	107.1	107.5	107.8
107.5°	131.9	132.1	132.1	132.3	132.5	132.5	132.5	132.6	132.7	132.8	133.0
110°	150.0	150.2	150.4	150.6	150.8	150.8	150.8	150.7	150.6	150.4	150.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	168.8	168.8	168.9	168.9	169.0	168.9	168.7	168.5	168.3	168.2	168.1
115°	197.0	197.0	197.0	197.0	197.0	196.9	196.7	196.5	196.3	196.1	196.0
117.5°	223.6	223.6	223.7	223.8	223.9	223.9	223.7	223.6	223.4	223.3	222.9
120°	241.3	241.7	242.1	242.5	242.9	243.0	242.6	242.3	242.0	241.7	241.2
122.5°	259.7	259.8	260.0	260.2	260.3	260.4	260.2	260.1	259.9	259.8	259.4
125°	286.9	286.9	286.9	286.9	286.9	286.8	286.8	286.7	286.5	286.5	286.2
127.5°	311.6	311.9	312.2	312.5	312.8	312.8	312.7	312.5	312.4	312.2	312.0
130°	328.9	329.2	329.5	329.9	330.1	330.3	330.3	330.3	330.3	330.3	330.1
132.5°	346.7	346.9	347.1	347.3	347.5	347.6	347.5	347.5	347.4	347.3	347.1
135°	370.0	370.7	371.2	371.9	372.5	372.7	372.7	372.7	372.7	372.7	372.6
137.5°	395.5	395.8	396.1	396.3	396.6	396.9	397.0	397.2	397.4	397.5	397.3
140°	412.5	412.7	412.9	413.1	413.3	413.4	413.4	413.4	413.4	413.4	413.3
142.5°	428.0	428.3	428.5	428.6	428.9	428.9	428.8	428.7	428.6	428.6	428.6
145°	449.6	450.0	450.4	450.8	451.1	451.4	451.5	451.6	451.7	451.8	451.7
147.5°	470.9	471.3	471.8	472.3	472.9	473.0	472.9	472.9	472.8	472.7	472.6
150°	483.9	484.3	484.7	485.1	485.5	485.7	485.7	485.7	485.7	485.7	485.7
152.5°	496.2	496.5	496.7	496.9	497.2	497.3	497.4	497.5	497.6	497.6	497.9
155°	515.1	515.1	515.1	515.1	515.1	515.0	514.9	514.8	514.8	514.6	515.0
157.5°	531.0	530.8	530.6	530.4	530.3	530.1	530.1	530.1	530.1	530.0	530.4
160°	540.3	540.3	540.2	540.1	540.0	539.9	539.8	539.7	539.6	539.5	539.8
162.5°	549.1	548.8	548.5	548.3	548.0	547.8	547.7	547.6	547.6	547.4	548.0
165°	560.7	560.4	560.1	559.8	559.5	559.3	559.0	558.9	558.6	558.5	559.0
167.5°	569.7	569.3	568.8	568.4	568.0	567.8	567.8	567.8	567.8	567.8	568.5
170°	574.7	574.3	573.7	573.2	572.7	572.5	572.6	572.7	572.8	572.9	573.5
172.5°	578.3	577.9	577.5	577.1	576.6	576.5	576.5	576.5	576.5	576.6	577.2
175°	583.3	582.8	582.3	581.8	581.3	581.0	580.9	580.8	580.7	580.6	581.3
177.5°	584.9	584.6	584.2	583.8	583.3	583.1	583.1	583.1	583.1	583.1	583.7
180°	584.2	584.2	584.2	584.2	584.2	584.2	584.2	584.2	584.2	584.2	584.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	489.7	489.7	489.7	489.7	489.7	489.7	489.7	489.7
2.5°	487.9	488.6	489.3	489.6	489.6	489.6	489.5	489.4
5°	484.7	485.4	486.3	486.6	486.5	486.3	486.1	485.9
7.5°	478.2	478.7	479.3	479.3	479.1	478.9	478.6	478.3
10°	472.4	472.7	473.0	473.0	472.7	472.4	472.1	471.7
12.5°	465.2	465.4	465.6	465.5	465.0	464.5	464.1	463.6
15°	452.7	452.5	452.3	451.9	451.3	450.8	450.2	449.6
17.5°	437.4	437.0	436.6	435.9	435.0	434.1	433.2	432.4
20°	426.9	426.2	425.6	424.7	423.6	422.5	421.4	420.3
22.5°	415.1	414.1	413.1	412.2	411.3	410.4	409.6	408.6
25°	396.1	394.7	393.3	392.2	391.3	390.5	389.7	388.8
27.5°	376.8	375.0	373.3	371.9	370.6	369.4	368.2	367.0
30°	362.9	360.8	358.8	357.0	355.7	354.4	353.1	351.7
32.5°	348.8	346.3	344.0	342.1	340.8	339.5	338.3	337.0
35°	327.6	324.9	322.0	319.9	318.4	316.9	315.4	313.9
37.5°	305.1	301.9	298.7	296.4	294.9	293.3	291.8	290.3
40°	289.9	286.5	283.0	280.5	279.0	277.5	276.0	274.5
42.5°	275.1	271.6	268.0	265.5	263.9	262.3	260.7	259.2
45°	252.5	248.3	244.2	241.5	240.0	238.4	236.9	235.5
47.5°	229.6	225.3	221.1	218.2	216.5	214.8	213.2	211.6
50°	214.4	210.2	206.0	203.2	201.6	200.0	198.4	196.9
52.5°	199.2	195.0	190.8	187.8	186.2	184.6	182.9	181.3
55°	177.0	172.6	168.3	165.3	163.7	162.2	160.6	159.0
57.5°	155.1	150.8	146.3	143.5	142.4	141.2	139.9	138.7
60°	140.5	136.3	131.9	129.0	127.7	126.4	125.1	123.7
62.5°	126.3	122.2	118.3	115.7	114.6	113.6	112.5	111.5
65°	105.7	102.1	98.5	96.3	95.2	94.3	93.2	92.2
67.5°	86.8	83.7	80.6	78.6	77.5	76.4	75.3	74.1
70°	74.0	71.2	68.5	66.7	65.8	65.0	64.2	63.4
72.5°	62.5	60.1	57.8	56.2	55.5	54.7	53.9	53.2
75°	46.0	44.1	42.2	41.0	40.5	40.0	39.5	39.0
77.5°	32.6	31.4	30.3	29.7	29.5	29.4	29.2	29.1
80°	25.0	24.7	24.5	24.3	24.2	24.2	24.1	24.0
82.5°	19.4	19.3	19.1	18.9	18.9	18.8	18.7	18.6
85°	11.3	11.1	10.9	10.9	10.9	10.9	10.9	10.9
87.5°	6.3	6.3	6.4	6.5	6.6	6.7	6.8	6.9
90°	11.2	11.7	12.4	12.8	13.0	13.2	13.4	13.5
92.5°	18.6	19.0	19.3	19.6	19.7	19.8	20.0	20.0
95°	34.9	35.3	35.6	35.7	35.7	35.7	35.7	35.7
97.5°	55.1	55.4	55.8	55.9	55.9	55.9	55.9	55.9
100°	69.6	69.7	69.9	70.0	70.0	70.0	70.0	70.0
102.5°	84.8	85.2	85.4	85.6	85.7	85.8	85.9	86.0
105°	108.1	108.4	108.8	109.0	109.3	109.6	110.0	110.3
107.5°	133.3	133.6	133.9	134.0	134.0	134.0	134.0	134.0
110°	150.0	149.9	149.6	149.7	150.0	150.3	150.6	150.9



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CATALOG NUMBER: S124RDIP-S350D590U927-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	168.1	168.0	168.0	168.0	168.1	168.1	168.2	168.3
115°	195.9	195.8	195.7	195.6	195.5	195.4	195.3	195.2
117.5°	222.6	222.3	221.9	221.7	221.4	221.3	221.0	220.9
120°	240.7	240.2	239.7	239.6	239.8	240.0	240.2	240.3
122.5°	259.1	258.8	258.4	258.1	257.7	257.4	257.0	256.7
125°	286.1	285.8	285.7	285.4	285.3	285.0	284.9	284.6
127.5°	311.8	311.6	311.4	311.2	311.1	310.9	310.8	310.6
130°	329.9	329.7	329.5	329.2	328.8	328.4	328.0	327.6
132.5°	346.9	346.7	346.5	346.3	346.1	345.9	345.8	345.6
135°	372.3	372.2	371.9	371.7	371.4	371.1	370.8	370.5
137.5°	397.0	396.7	396.5	396.3	396.4	396.5	396.6	396.6
140°	413.2	413.1	413.0	412.9	412.8	412.7	412.6	412.5
142.5°	428.6	428.6	428.5	428.5	428.5	428.5	428.4	428.4
145°	451.6	451.5	451.4	451.2	450.9	450.6	450.3	450.0
147.5°	472.5	472.5	472.4	472.3	472.2	472.1	472.0	471.9
150°	485.7	485.7	485.7	485.7	485.5	485.4	485.4	485.3
152.5°	498.1	498.4	498.6	498.6	498.4	498.0	497.8	497.6
155°	515.4	515.8	516.3	516.3	515.8	515.4	515.0	514.6
157.5°	530.7	531.0	531.3	531.2	530.9	530.6	530.2	529.9
160°	540.1	540.3	540.7	540.6	540.1	539.6	539.1	538.6
162.5°	548.5	549.1	549.6	549.6	549.1	548.6	548.1	547.6
165°	559.7	560.2	560.9	560.9	560.5	560.2	559.8	559.4
167.5°	569.0	569.7	570.3	570.2	569.7	569.0	568.4	567.8
170°	574.1	574.7	575.3	575.3	574.6	573.9	573.1	572.4
172.5°	577.9	578.6	579.2	579.2	578.5	577.8	577.1	576.5
175°	582.0	582.7	583.4	583.4	582.7	582.0	581.3	580.6
177.5°	584.2	584.8	585.3	585.3	584.7	584.1	583.4	582.7
180°	584.2	584.2	584.2	584.2	584.2	584.2	584.2	584.2

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