

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: P332725-935

Luminaire Tested: **S124DIW-S350D770U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332725-935
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: S124DIW-S350D770U935-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 770 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3950.8 lumens
Efficiency: N/A
Efficacy: 130.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

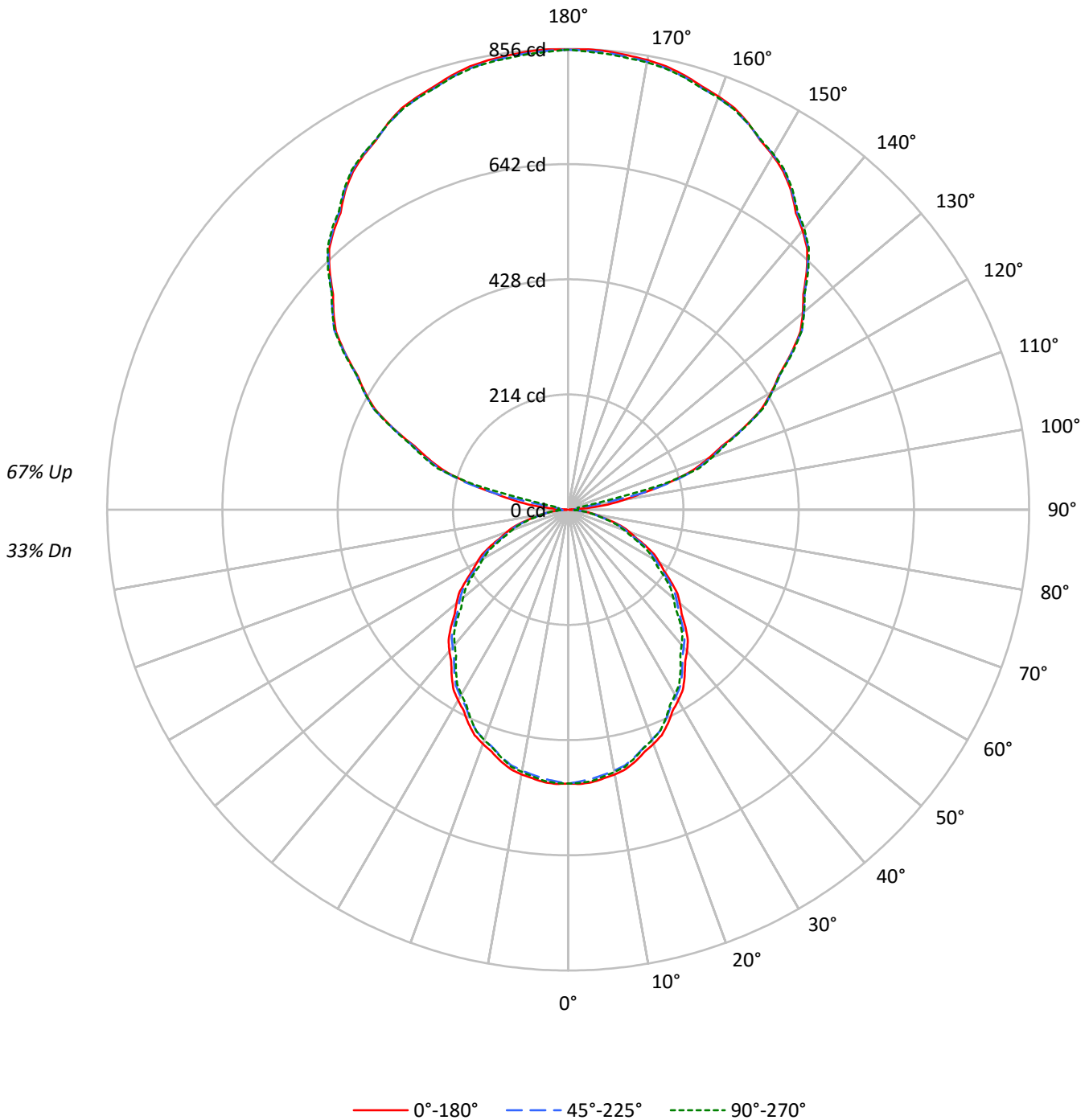
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	74	74	74	57	57	57	41	41	41	33
1	94	90	86	82	85	81	78	75	65	62	60	50	48	47	36	35	34	28
2	86	78	72	67	77	71	66	61	57	53	50	44	41	39	31	30	29	23
3	78	69	62	56	70	62	56	51	50	46	42	38	36	33	28	26	24	20
4	71	61	53	47	64	55	48	43	44	39	36	34	31	28	25	23	21	17
5	65	54	46	40	59	49	42	37	40	34	31	31	27	24	22	20	18	15
6	60	48	40	35	54	44	37	32	36	30	27	28	24	21	20	18	16	13
7	55	44	36	30	50	40	33	28	32	27	23	25	21	19	19	16	14	11
8	51	39	32	27	46	36	29	25	29	24	21	23	19	17	17	15	13	10
9	48	36	29	24	43	33	26	22	27	22	18	21	17	15	16	13	12	9
10	45	33	26	21	40	30	24	20	25	20	16	19	16	13	15	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4106	4106	4106
5°	4118	4068	4099
10°	4092	4036	4055
15°	4043	3978	3989
20°	3978	3907	3911
25°	3902	3827	3815
30°	3811	3731	3697
35°	3714	3631	3582
40°	3616	3518	3453
45°	3513	3406	3342
50°	3399	3307	3204
55°	3275	3178	3074
60°	3152	3034	2942
65°	3012	2896	2779
70°	2858	2712	2608
75°	2617	2492	2427
80°	2329	2236	2176
85°	2038	1964	1927



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.9	1.2
10°-20°	135.0	3.4
20°-30°	198.6	5.0
30°-40°	230.9	5.8
40°-50°	230.9	5.8
50°-60°	202.0	5.1
60°-70°	150.0	3.8
70°-80°	85.2	2.2
80°-90°	27.1	0.7
90°-100°	29.2	0.7
100°-110°	186.3	4.7
110°-120°	356.5	9.0
120°-130°	452.5	11.5
130°-140°	484.2	12.3
140°-150°	452.7	11.5
150°-160°	365.1	9.2
160°-170°	235.5	6.0
170°-180°	81.2	2.1
0°-30°	381.5	9.7
0°-40°	612.4	15.5
0°-60°	1045.3	26.5
0°-90°	1307.6	33.1
90°-120°	572.0	14.5
90°-150°	1961.4	49.6
90°-180°	2643.0	66.9
0°-180°	3950.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	509	509	509	509	509	
5°	508	506	502	506	506	48
15°	484	482	476	478	477	136
25°	438	435	430	430	428	201
35°	377	374	368	366	364	236
45°	308	305	298	294	293	237
55°	233	231	226	221	218	208
65°	158	156	152	148	146	156
75°	84	82	80	78	78	89
85°	22	22	21	21	21	24
90°	2	9	14	18	19	3
95°	35	15	14	18	18	45
105°	192	196	199	204	182	201
115°	359	361	360	362	362	353
125°	505	507	506	508	509	451
135°	626	626	628	630	631	482
145°	722	724	724	725	726	451
155°	792	792	791	793	791	365
165°	835	832	832	837	832	236
175°	854	851	851	856	849	81
180°	854	854	854	854	854	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6
2.5°	509.9	509.7	509.5	509.3	509.0	508.5	507.7	507.0	506.2	505.3	506.1
5°	508.2	507.8	507.5	507.1	506.8	506.1	505.1	504.1	503.1	502.0	503.1
7.5°	503.5	503.1	502.7	502.4	502.0	501.3	500.2	499.1	498.0	496.9	497.7
10°	499.2	498.9	498.5	498.2	497.8	497.1	495.8	494.6	493.5	492.3	493.0
12.5°	493.7	493.4	493.0	492.6	492.2	491.5	490.2	489.0	487.7	486.5	487.2
15°	483.7	483.4	483.0	482.7	482.3	481.5	480.1	478.7	477.3	476.0	476.6
17.5°	471.7	471.3	470.9	470.5	469.9	469.1	467.8	466.5	465.2	463.9	464.3
20°	463.0	462.5	462.1	461.6	461.2	460.3	458.9	457.5	456.2	454.8	455.1
22.5°	453.5	452.9	452.3	451.7	451.1	450.1	448.8	447.5	446.1	444.7	445.2
25°	438.1	437.5	436.9	436.2	435.6	434.6	433.3	432.0	430.8	429.6	429.6
27.5°	420.5	419.8	419.2	418.5	417.9	417.0	415.8	414.7	413.5	412.2	412.1
30°	408.8	408.0	407.3	406.6	405.9	404.9	403.7	402.5	401.4	400.2	399.8
32.5°	396.4	395.7	395.0	394.4	393.7	392.8	391.6	390.3	389.1	387.8	387.4
35°	376.9	376.3	375.7	375.1	374.4	373.5	372.2	370.9	369.7	368.4	367.8
37.5°	356.5	355.9	355.3	354.8	354.2	353.3	351.9	350.5	349.1	347.8	347.1
40°	343.1	342.4	341.7	341.0	340.3	339.2	337.9	336.5	335.1	333.8	332.9
42.5°	328.8	328.4	328.0	327.5	327.1	326.1	324.6	323.0	321.6	320.1	319.0
45°	307.7	307.0	306.4	305.8	305.1	304.1	302.6	301.2	299.8	298.3	297.3
47.5°	285.6	285.2	284.7	284.3	283.9	283.0	281.6	280.3	279.0	277.6	276.5
50°	270.6	270.3	269.9	269.5	269.1	268.4	267.1	265.8	264.5	263.3	262.0
52.5°	256.0	255.5	255.0	254.6	254.2	253.3	251.9	250.6	249.3	248.0	246.8
55°	232.7	232.5	232.1	231.9	231.6	230.8	229.5	228.3	227.0	225.8	224.7
57.5°	210.5	210.3	209.9	209.7	209.3	208.5	207.2	206.0	204.7	203.5	202.5
60°	195.2	194.8	194.3	193.8	193.4	192.6	191.4	190.2	189.1	187.9	187.1
62.5°	180.2	179.9	179.4	179.1	178.7	177.9	176.6	175.4	174.1	172.9	172.1
65°	157.7	157.3	156.8	156.4	155.9	155.2	154.3	153.4	152.5	151.6	150.7
67.5°	135.1	134.7	134.2	133.8	133.4	132.8	131.9	131.0	130.2	129.2	128.4
70°	121.1	120.4	119.8	119.2	118.5	117.8	117.1	116.4	115.6	114.9	114.2
72.5°	106.1	105.4	104.8	104.2	103.5	102.9	102.3	101.8	101.2	100.6	100.0
75°	83.9	83.5	83.1	82.6	82.1	81.7	81.3	80.8	80.3	79.9	79.6
77.5°	62.9	62.7	62.4	62.3	62.1	61.7	61.4	61.0	60.5	60.2	60.0
80°	50.1	49.9	49.6	49.3	49.1	48.8	48.6	48.5	48.3	48.1	47.9
82.5°	37.7	37.6	37.5	37.4	37.2	37.1	37.1	37.1	37.0	37.0	36.9
85°	22.0	22.0	22.0	22.0	22.0	22.0	21.7	21.5	21.4	21.2	21.2
87.5°	8.9	9.1	9.3	9.6	9.8	10.0	10.2	10.3	10.5	10.7	10.8
90°	1.9	3.4	5.1	6.6	8.2	9.6	10.7	11.8	12.9	14.0	14.9
92.5°	8.1	8.2	8.3	8.3	8.4	9.0	10.2	11.3	12.4	13.5	14.4
95°	35.1	30.3	25.5	20.7	15.8	13.5	13.6	13.8	13.9	14.0	14.9
97.5°	74.6	77.7	80.7	83.7	86.7	80.2	64.4	48.6	32.7	16.9	17.0
100°	104.8	107.4	109.9	112.4	115.0	106.5	87.0	67.3	47.7	28.2	25.7
102.5°	138.5	140.4	142.3	144.2	146.0	145.7	143.2	140.6	138.0	135.5	109.4
105°	192.3	193.2	194.1	194.9	195.8	196.6	197.3	197.9	198.7	199.4	200.7
107.5°	242.4	242.8	243.2	243.7	244.1	244.8	245.7	246.7	247.6	248.6	249.3
110°	276.1	276.6	277.0	277.4	277.8	278.4	279.3	280.2	281.0	281.8	282.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	308.8	309.6	310.4	311.1	311.9	312.5	312.9	313.2	313.7	314.1	314.0
115°	359.2	359.6	360.1	360.4	360.8	361.0	360.8	360.8	360.6	360.4	360.8
117.5°	404.6	405.1	405.7	406.2	406.8	407.3	407.6	407.9	408.2	408.5	408.5
120°	435.2	435.8	436.4	437.0	437.5	437.7	437.6	437.5	437.3	437.1	437.5
122.5°	463.9	464.2	464.5	464.9	465.2	465.5	465.7	465.9	466.1	466.3	466.5
125°	504.9	505.5	506.0	506.6	507.1	507.3	507.0	506.8	506.4	506.2	506.6
127.5°	543.7	543.9	544.1	544.2	544.3	544.8	545.4	546.0	546.6	547.3	547.3
130°	568.8	568.9	569.1	569.2	569.4	569.6	570.1	570.5	570.9	571.4	571.5
132.5°	591.9	592.1	592.4	592.5	592.8	593.2	593.7	594.3	594.9	595.4	595.6
135°	626.3	626.2	626.0	625.9	625.8	625.9	626.5	627.1	627.7	628.3	628.5
137.5°	656.9	656.9	657.0	657.0	657.1	657.5	658.1	658.7	659.4	660.0	660.2
140°	676.8	677.1	677.3	677.7	678.0	678.2	678.6	678.8	679.1	679.4	679.8
142.5°	694.7	695.3	695.8	696.2	696.7	697.1	697.2	697.4	697.6	697.8	698.1
145°	722.2	722.6	723.1	723.5	723.9	724.1	724.1	724.1	724.1	724.1	724.3
147.5°	744.1	744.9	745.6	746.4	747.3	747.5	747.4	747.3	747.1	747.0	747.1
150°	759.9	760.4	761.0	761.6	762.2	762.4	762.2	762.1	762.0	761.8	761.8
152.5°	773.2	773.6	774.1	774.6	775.0	775.1	774.8	774.6	774.4	774.1	774.3
155°	791.9	792.0	792.1	792.3	792.5	792.3	791.9	791.4	791.0	790.6	791.2
157.5°	807.6	807.5	807.4	807.4	807.3	806.9	806.5	806.0	805.5	805.0	805.7
160°	816.7	816.3	816.0	815.5	815.1	814.8	814.7	814.5	814.3	814.2	815.1
162.5°	824.9	824.4	823.9	823.4	822.8	822.4	822.3	822.2	822.0	821.9	822.8
165°	835.3	834.6	833.9	833.2	832.5	832.2	832.2	832.2	832.2	832.2	833.3
167.5°	843.5	842.7	842.1	841.3	840.5	840.2	840.1	840.0	839.9	839.8	841.0
170°	848.1	847.2	846.4	845.5	844.7	844.3	844.5	844.6	844.7	844.9	846.0
172.5°	851.2	850.3	849.5	848.6	847.7	847.4	847.6	847.7	847.8	848.0	849.1
175°	854.5	853.6	852.8	852.0	851.1	850.8	850.8	851.0	851.2	851.3	852.6
177.5°	856.0	855.2	854.5	853.6	852.8	852.6	852.8	853.0	853.3	853.4	854.4
180°	854.5	854.5	854.5	854.5	854.5	854.5	854.5	854.5	854.5	854.5	854.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6
2.5°	506.8	507.6	508.2	508.6	508.5	508.4	508.3	508.2
5°	504.1	505.1	506.1	506.4	506.3	506.1	505.9	505.8
7.5°	498.4	499.3	500.1	500.4	500.3	500.2	500.1	500.0
10°	493.8	494.5	495.2	495.5	495.3	495.1	494.9	494.7
12.5°	488.0	488.8	489.7	489.9	489.7	489.4	489.1	488.9
15°	477.1	477.6	478.2	478.3	478.0	477.8	477.5	477.3
17.5°	464.6	464.9	465.3	465.4	465.2	465.0	464.9	464.7
20°	455.4	455.6	455.9	456.0	455.7	455.6	455.4	455.2
22.5°	445.7	446.2	446.7	446.8	446.4	446.1	445.7	445.5
25°	429.7	429.8	429.9	429.8	429.4	429.0	428.7	428.3
27.5°	411.8	411.6	411.4	411.0	410.6	410.2	409.7	409.2
30°	399.5	399.2	398.7	398.4	397.9	397.4	397.0	396.6
32.5°	386.9	386.5	386.1	385.6	385.2	384.7	384.3	383.8
35°	367.1	366.5	365.8	365.3	364.9	364.5	363.9	363.5
37.5°	346.4	345.7	345.0	344.4	343.8	343.2	342.6	342.0
40°	332.0	331.1	330.2	329.5	329.0	328.6	328.1	327.7
42.5°	318.0	316.9	315.9	315.2	314.9	314.6	314.3	314.0
45°	296.4	295.3	294.4	293.7	293.4	293.2	292.9	292.7
47.5°	275.3	274.2	273.1	272.2	271.6	270.9	270.2	269.5
50°	260.7	259.5	258.2	257.3	256.8	256.2	255.6	255.1
52.5°	245.7	244.6	243.5	242.5	241.9	241.2	240.5	239.8
55°	223.6	222.5	221.4	220.6	220.1	219.6	219.0	218.4
57.5°	201.5	200.4	199.4	198.6	198.1	197.6	197.1	196.5
60°	186.2	185.5	184.6	184.0	183.6	183.0	182.6	182.2
62.5°	171.4	170.7	169.9	169.3	168.8	168.4	168.0	167.5
65°	149.8	148.9	148.0	147.3	146.9	146.4	145.9	145.5
67.5°	127.5	126.7	125.8	125.3	125.2	125.0	124.9	124.8
70°	113.5	112.8	112.0	111.5	111.2	111.0	110.7	110.5
72.5°	99.4	98.8	98.2	97.8	97.6	97.3	97.0	96.8
75°	79.1	78.8	78.4	78.2	78.1	78.0	77.9	77.8
77.5°	59.9	59.8	59.8	59.6	59.3	59.1	58.8	58.6
80°	47.7	47.5	47.4	47.3	47.1	47.0	46.9	46.8
82.5°	36.8	36.7	36.6	36.5	36.4	36.2	36.2	36.1
85°	21.2	21.2	21.2	21.2	21.1	21.0	20.8	20.8
87.5°	10.9	11.1	11.3	11.5	11.5	11.5	11.6	11.6
90°	15.8	16.6	17.5	18.0	18.3	18.6	18.9	19.2
92.5°	15.2	16.1	17.0	17.4	17.5	17.6	17.6	17.7
95°	15.8	16.6	17.5	18.0	18.1	18.3	18.4	18.5
97.5°	17.0	17.1	17.2	17.3	17.5	17.7	17.7	17.9
100°	23.3	20.8	18.4	17.3	17.5	17.7	17.7	17.9
102.5°	83.4	57.3	31.3	18.3	18.3	18.3	18.3	18.4
105°	202.0	203.2	204.5	202.6	197.5	192.3	187.3	182.2
107.5°	249.9	250.5	251.2	251.7	252.3	252.8	253.3	253.8
110°	282.4	282.7	283.0	283.4	283.8	284.2	284.6	285.1



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CATALOG NUMBER: S124DIW-S350D770U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	313.9	313.9	313.8	314.1	314.6	315.1	315.7	316.2
115°	361.0	361.3	361.6	361.7	361.7	361.7	361.7	361.7
117.5°	408.4	408.4	408.3	408.2	408.2	408.1	408.0	408.0
120°	437.7	438.0	438.2	438.2	438.0	437.7	437.5	437.1
122.5°	466.7	466.8	467.0	466.9	466.7	466.3	466.1	465.8
125°	507.0	507.5	507.9	508.2	508.3	508.4	508.6	508.8
127.5°	547.2	547.1	547.0	546.9	546.8	546.6	546.6	546.5
130°	571.6	571.8	572.0	572.0	572.0	572.0	572.0	572.0
132.5°	595.6	595.8	596.0	596.0	595.9	595.7	595.6	595.6
135°	628.8	629.1	629.4	629.6	629.9	630.3	630.5	630.8
137.5°	660.6	660.9	661.2	661.3	661.2	661.2	661.1	661.0
140°	680.2	680.6	681.1	681.4	681.5	681.7	681.8	681.9
142.5°	698.4	698.7	699.0	699.2	699.2	699.2	699.3	699.3
145°	724.4	724.5	724.7	724.9	725.1	725.5	725.7	726.0
147.5°	747.2	747.3	747.4	747.6	747.7	747.9	748.0	748.1
150°	761.8	761.8	761.8	761.9	762.1	762.2	762.3	762.4
152.5°	774.6	774.7	775.0	775.1	775.0	774.9	774.8	774.7
155°	791.7	792.3	792.8	792.9	792.5	792.0	791.6	791.3
157.5°	806.5	807.3	808.0	808.0	807.3	806.5	805.7	805.0
160°	816.0	816.7	817.6	817.6	816.7	816.0	815.1	814.2
162.5°	823.6	824.4	825.3	825.3	824.3	823.3	822.3	821.4
165°	834.4	835.5	836.6	836.6	835.3	834.1	832.8	831.5
167.5°	842.3	843.5	844.8	844.7	843.3	841.9	840.4	839.0
170°	847.1	848.3	849.5	849.3	847.9	846.4	845.1	843.6
172.5°	850.2	851.4	852.5	852.3	850.8	849.3	847.7	846.2
175°	853.9	855.1	856.4	856.2	854.5	852.8	851.1	849.4
177.5°	855.3	856.2	857.1	856.9	855.5	854.1	852.8	851.4
180°	854.5	854.5	854.5	854.5	854.5	854.5	854.5	854.5

(END OF REPORT)