

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: P332723-935

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332723-935
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-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 770 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3886.3 lumens
Efficiency: N/A
Efficacy: 127.8 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

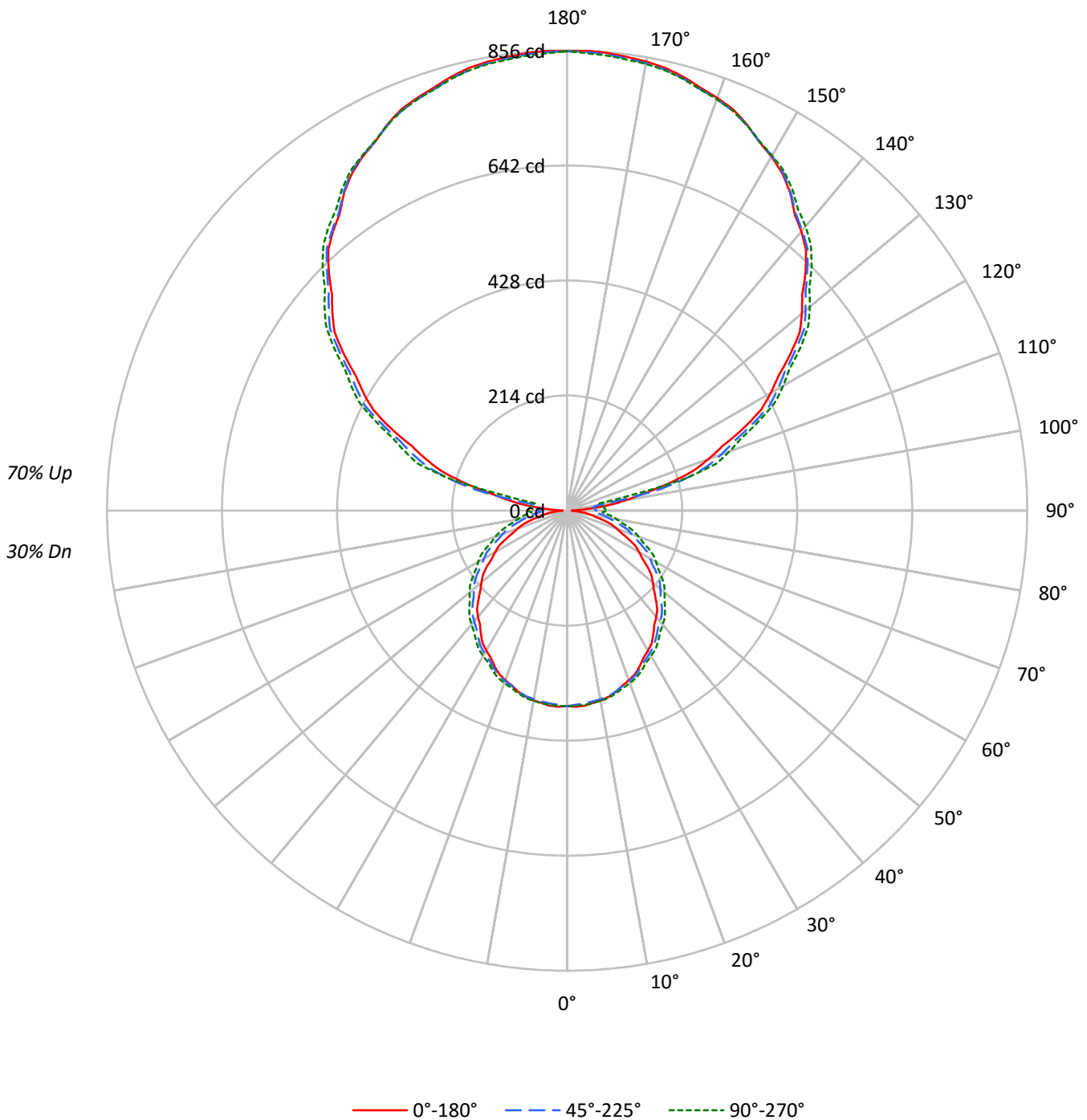
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332723-935

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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	102	102	102	102	92	92	92	92	72	72	72	54	54	54	37	37	37	30				
1	93	88	84	81	83	79	76	73	62	60	58	46	45	44	32	31	30	24				
2	84	77	70	65	75	69	63	59	54	50	47	40	38	36	28	26	25	19				
3	76	67	60	54	68	60	54	49	47	43	39	35	32	30	24	23	21	16				
4	70	59	51	45	62	53	46	41	42	37	33	31	28	25	22	20	18	14				
5	64	52	44	38	57	47	40	35	37	32	28	28	25	22	19	17	15	12				
6	59	47	39	33	52	42	35	30	33	28	25	25	22	19	18	15	13	10				
7	54	42	34	29	48	38	31	26	30	25	21	23	19	17	16	14	12	9				
8	50	38	30	25	45	34	28	23	27	22	19	21	17	15	15	12	11	8				
9	46	35	27	22	42	31	25	20	25	20	17	19	16	13	13	11	9	7				
10	43	32	24	20	39	29	22	18	23	18	15	17	14	12	12	10	9	6				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2938	2938	2938
5°	2948	2871	2880
10°	2929	2825	2823
15°	2902	2770	2755
20°	2863	2710	2690
25°	2819	2643	2617
30°	2770	2576	2543
35°	2716	2507	2478
40°	2672	2442	2410
45°	2607	2382	2352
50°	2553	2313	2291
55°	2496	2248	2220
60°	2408	2164	2153
65°	2309	2076	2073
70°	2192	1973	1979
75°	2029	1861	1894
80°	1846	1754	1809
85°	1616	1659	1762



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.5	0.9
10°-20°	98.7	2.5
20°-30°	149.3	3.8
30°-40°	180.7	4.6
40°-50°	191.0	4.9
50°-60°	179.7	4.6
60°-70°	149.1	3.8
70°-80°	104.7	2.7
80°-90°	61.7	1.6
90°-100°	64.4	1.7
100°-110°	212.4	5.5
110°-120°	373.9	9.6
120°-130°	462.4	11.9
130°-140°	488.4	12.6
140°-150°	453.6	11.7
150°-160°	365.1	9.4
160°-170°	235.5	6.1
170°-180°	81.2	2.1
0°-30°	282.5	7.3
0°-40°	463.2	11.9
0°-60°	833.9	21.5
0°-90°	1149.4	29.6
90°-120°	650.7	16.7
90°-150°	2055.1	52.9
90°-180°	2737.0	70.4
0°-180°	3886.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	364	364	364	364	364	
5°	364	363	360	363	363	35
15°	349	350	348	352	352	98
25°	320	322	323	327	328	147
35°	280	284	288	294	296	175
45°	233	241	249	255	258	180
55°	183	191	203	211	214	163
65°	126	139	153	163	167	125
75°	70	85	102	113	117	75
85°	22	39	57	69	73	23
90°	8	32	54	70	75	6
95°	40	34	50	64	69	49
105°	196	208	226	240	222	205
115°	362	368	380	389	393	356
125°	506	509	518	527	530	452
135°	627	627	632	640	643	483
145°	723	724	724	727	730	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°	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9
2.5°	365.2	365.0	364.8	364.5	364.4	363.9	363.4	362.8	362.2	361.6	362.1
5°	364.4	364.0	363.8	363.5	363.3	362.8	362.1	361.5	360.9	360.2	361.0
7.5°	361.3	361.1	360.9	360.8	360.6	360.2	359.7	359.2	358.7	358.2	359.0
10°	358.6	358.5	358.4	358.3	358.3	358.0	357.6	357.1	356.6	356.2	357.0
12.5°	355.1	355.0	355.0	355.0	355.0	354.8	354.5	354.2	353.9	353.6	354.3
15°	349.2	349.4	349.5	349.6	349.7	349.6	349.2	349.0	348.7	348.4	349.2
17.5°	341.4	341.6	341.9	342.2	342.4	342.6	342.5	342.4	342.4	342.3	343.2
20°	335.8	336.0	336.4	336.7	336.9	337.1	337.2	337.3	337.3	337.4	338.4
22.5°	329.6	329.9	330.3	330.6	331.0	331.2	331.4	331.6	331.7	331.9	332.8
25°	319.5	320.0	320.6	321.2	321.7	322.1	322.4	322.6	322.9	323.2	324.2
27.5°	308.2	309.1	309.9	310.6	311.4	312.0	312.5	312.9	313.3	313.7	314.6
30°	300.7	301.5	302.2	302.9	303.7	304.4	305.0	305.6	306.3	306.9	307.9
32.5°	292.7	293.5	294.4	295.2	296.1	296.9	297.6	298.3	299.0	299.7	300.8
35°	279.6	280.7	281.7	282.8	284.0	284.9	285.9	286.7	287.7	288.5	289.8
37.5°	266.5	267.7	269.0	270.2	271.5	272.6	273.8	274.9	276.0	277.2	278.4
40°	258.0	259.2	260.4	261.5	262.7	263.9	265.2	266.5	267.7	269.0	270.4
42.5°	248.2	249.5	250.8	252.2	253.5	254.9	256.4	257.9	259.3	260.8	262.3
45°	233.1	234.8	236.5	238.2	240.0	241.7	243.4	245.1	246.8	248.6	250.1
47.5°	218.7	220.5	222.2	224.0	225.8	227.6	229.6	231.7	233.7	235.7	237.2
50°	208.3	210.3	212.2	214.2	216.2	218.2	220.2	222.2	224.2	226.2	228.0
52.5°	197.9	199.8	201.8	203.8	205.8	207.9	210.2	212.5	214.7	217.1	218.9
55°	182.6	184.5	186.4	188.3	190.2	192.5	195.2	197.9	200.6	203.4	205.2
57.5°	165.6	167.9	170.2	172.6	175.0	177.5	180.2	182.9	185.5	188.3	190.5
60°	154.5	156.8	159.2	161.5	163.8	166.5	169.5	172.5	175.5	178.5	180.6
62.5°	143.7	146.3	148.9	151.4	153.9	156.8	159.7	162.7	165.7	168.8	170.8
65°	126.3	129.2	132.2	135.0	137.9	140.9	144.0	147.1	150.2	153.3	155.5
67.5°	109.6	112.7	115.8	118.9	121.9	125.1	128.5	131.7	135.0	138.3	140.6
70°	98.2	101.3	104.4	107.5	110.6	113.8	117.3	120.7	124.2	127.6	130.0
72.5°	87.1	90.3	93.4	96.6	99.7	103.1	106.8	110.5	114.1	117.8	120.1
75°	70.1	73.4	76.8	80.2	83.5	87.0	90.9	94.7	98.5	102.3	104.9
77.5°	54.2	57.8	61.3	64.8	68.4	72.2	76.1	80.2	84.1	88.1	90.7
80°	44.4	48.0	51.7	55.3	58.9	62.7	66.7	70.7	74.6	78.7	81.4
82.5°	34.6	38.4	42.2	46.0	49.7	53.6	57.6	61.6	65.5	69.6	72.3
85°	21.6	25.4	29.2	33.0	36.9	40.7	44.9	48.9	53.0	57.1	59.8
87.5°	12.5	16.4	20.5	24.5	28.5	32.5	36.8	41.0	45.1	49.3	52.2
90°	8.4	13.6	18.8	24.0	29.2	34.3	39.3	44.3	49.3	54.4	57.9
92.5°	14.2	17.6	20.9	24.3	27.6	31.9	36.9	41.8	46.9	51.9	55.4
95°	40.5	38.6	36.8	35.0	33.1	34.1	38.0	41.8	45.6	49.5	52.8
97.5°	79.5	85.1	90.7	96.2	101.8	98.5	86.4	74.1	62.0	49.8	52.3
100°	109.3	114.2	119.1	124.1	129.0	123.4	107.3	91.3	75.2	59.1	59.2
102.5°	143.0	147.0	150.9	154.9	158.8	161.2	162.1	163.0	163.9	164.8	141.1
105°	196.0	198.7	201.4	204.1	206.7	210.1	214.1	218.2	222.2	226.3	229.8
107.5°	245.9	247.9	249.8	251.7	253.6	256.6	260.7	264.8	269.0	273.1	276.0
110°	279.4	281.0	282.8	284.5	286.1	289.0	293.0	297.0	301.1	305.1	307.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	311.8	313.7	315.6	317.5	319.3	321.9	325.4	328.8	332.3	335.6	337.6
115°	361.6	362.8	364.1	365.3	366.6	368.6	371.3	374.1	376.9	379.6	381.9
117.5°	406.9	407.9	409.1	410.1	411.1	413.2	416.2	419.2	422.2	425.2	427.1
120°	437.3	438.1	438.9	439.8	440.7	442.3	444.8	447.3	449.8	452.2	454.3
122.5°	465.9	466.3	466.7	467.1	467.5	469.0	471.7	474.4	477.1	479.7	481.7
125°	506.5	507.0	507.5	508.0	508.4	509.6	511.6	513.6	515.6	517.5	519.7
127.5°	545.3	545.4	545.4	545.4	545.5	546.7	549.1	551.6	553.9	556.3	557.8
130°	570.1	570.1	570.2	570.2	570.2	571.2	573.1	575.0	576.8	578.7	580.5
132.5°	593.1	593.2	593.4	593.6	593.7	594.6	596.3	598.1	599.7	601.4	603.1
135°	627.2	627.0	626.9	626.7	626.5	627.1	628.3	629.5	630.7	631.9	633.6
137.5°	657.7	657.6	657.6	657.6	657.5	658.0	658.9	659.9	660.8	661.8	663.4
140°	677.6	677.9	678.0	678.2	678.4	678.7	679.1	679.4	679.8	680.2	681.8
142.5°	695.2	695.7	696.2	696.7	697.2	697.5	697.6	697.7	697.8	697.9	699.3
145°	722.6	722.9	723.2	723.6	723.9	724.1	724.1	724.1	724.1	724.1	724.8
147.5°	744.4	745.2	745.9	746.6	747.3	747.5	747.4	747.3	747.1	747.0	747.2
150°	760.3	760.8	761.3	761.7	762.2	762.4	762.2	762.1	762.0	761.8	761.8
152.5°	773.3	773.7	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°	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9
2.5°	362.7	363.2	363.7	363.9	363.9	363.8	363.7	363.6
5°	361.7	362.4	363.2	363.5	363.4	363.3	363.2	363.1
7.5°	359.8	360.6	361.4	361.8	361.7	361.6	361.5	361.4
10°	357.8	358.6	359.5	359.8	359.7	359.6	359.6	359.5
12.5°	355.1	355.9	356.5	356.9	356.9	356.9	356.9	356.8
15°	350.1	350.9	351.7	352.1	352.0	351.9	351.8	351.7
17.5°	344.0	344.8	345.7	346.0	345.9	345.9	345.9	345.8
20°	339.2	340.2	341.0	341.6	341.6	341.6	341.6	341.6
22.5°	333.7	334.6	335.5	336.0	336.2	336.3	336.5	336.7
25°	325.2	326.1	327.2	327.7	327.8	327.9	328.0	328.0
27.5°	315.6	316.5	317.5	318.0	318.1	318.1	318.2	318.4
30°	308.8	309.9	310.8	311.4	311.6	311.9	312.0	312.2
32.5°	302.0	303.2	304.3	305.0	305.1	305.3	305.5	305.7
35°	291.1	292.3	293.6	294.4	294.6	294.9	295.2	295.5
37.5°	279.7	280.9	282.2	283.1	283.4	283.6	284.0	284.2
40°	271.7	273.0	274.4	275.3	275.6	276.0	276.4	276.7
42.5°	263.8	265.4	266.8	267.8	268.0	268.3	268.6	268.9
45°	251.7	253.2	254.8	255.7	256.2	256.7	257.1	257.5
47.5°	238.8	240.4	242.0	243.1	243.7	244.2	244.7	245.3
50°	229.8	231.6	233.4	234.6	235.1	235.7	236.3	236.8
52.5°	220.7	222.5	224.3	225.5	226.0	226.5	227.1	227.6
55°	207.0	208.8	210.6	211.8	212.3	212.8	213.4	214.0
57.5°	192.6	194.8	196.9	198.2	198.7	199.2	199.8	200.3
60°	182.7	184.8	186.8	188.2	189.0	189.7	190.5	191.1
62.5°	172.9	175.0	177.0	178.5	179.2	179.9	180.6	181.3
65°	157.7	160.1	162.3	163.8	164.5	165.2	166.0	166.7
67.5°	142.9	145.3	147.5	149.0	149.7	150.4	151.1	151.9
70°	132.4	134.9	137.3	138.9	139.5	140.2	140.8	141.4
72.5°	122.5	124.9	127.3	128.8	129.5	130.2	131.0	131.6
75°	107.4	109.9	112.4	114.1	114.9	115.7	116.6	117.4
77.5°	93.2	95.8	98.4	100.1	101.0	101.9	102.7	103.6
80°	84.1	86.8	89.5	91.3	92.0	92.7	93.4	94.1
82.5°	75.1	77.9	80.7	82.5	83.3	84.0	84.9	85.7
85°	62.5	65.2	67.9	69.7	70.6	71.5	72.4	73.4
87.5°	54.9	57.8	60.5	62.3	63.2	64.1	64.9	65.8
90°	61.4	64.8	68.4	70.6	71.5	72.6	73.6	74.6
92.5°	58.7	62.2	65.5	67.7	68.4	69.2	70.0	70.8
95°	56.1	59.4	62.7	64.8	65.8	66.7	67.7	68.6
97.5°	54.8	57.2	59.7	61.3	62.3	63.2	64.1	65.0
100°	59.2	59.2	59.2	59.6	60.4	61.1	61.9	62.8
102.5°	117.5	93.8	70.2	58.6	59.4	60.1	60.9	61.6
105°	233.4	236.9	240.5	240.0	235.7	231.3	226.9	222.5
107.5°	278.9	281.7	284.6	286.5	287.7	289.0	290.2	291.4
110°	309.8	312.2	314.5	316.3	317.5	318.6	319.8	320.9



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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	339.6	341.6	343.5	345.1	346.4	347.6	348.9	350.2
115°	384.2	386.4	388.7	390.2	390.8	391.4	392.1	392.7
117.5°	428.9	430.7	432.6	433.8	434.5	435.1	435.8	436.4
120°	456.4	458.5	460.6	461.8	462.4	462.8	463.2	463.6
122.5°	483.7	485.7	487.7	488.9	489.2	489.6	489.9	490.3
125°	521.9	524.0	526.2	527.6	528.3	529.0	529.7	530.3
127.5°	559.4	560.9	562.5	563.5	564.0	564.5	565.0	565.5
130°	582.2	584.0	585.8	586.9	587.5	588.1	588.6	589.1
132.5°	604.9	606.5	608.2	609.3	609.8	610.2	610.5	611.0
135°	635.4	637.1	638.9	640.2	640.9	641.8	642.6	643.4
137.5°	665.0	666.7	668.3	669.3	669.7	670.0	670.4	670.7
140°	683.4	685.0	686.6	687.7	688.3	688.9	689.5	690.1
142.5°	700.6	702.0	703.4	704.2	704.6	705.0	705.4	705.8
145°	725.5	726.2	726.9	727.5	728.1	728.8	729.4	730.1
147.5°	747.3	747.5	747.7	748.0	748.5	748.9	749.3	749.8
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

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