

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: P332723-927

Luminaire Tested: **S124DIW-S350D770U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332723-927
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: S124DIW-S350D770U927-4F0-1E-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: 3575.6 lumens
Efficiency: N/A
Efficacy: 117.6 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

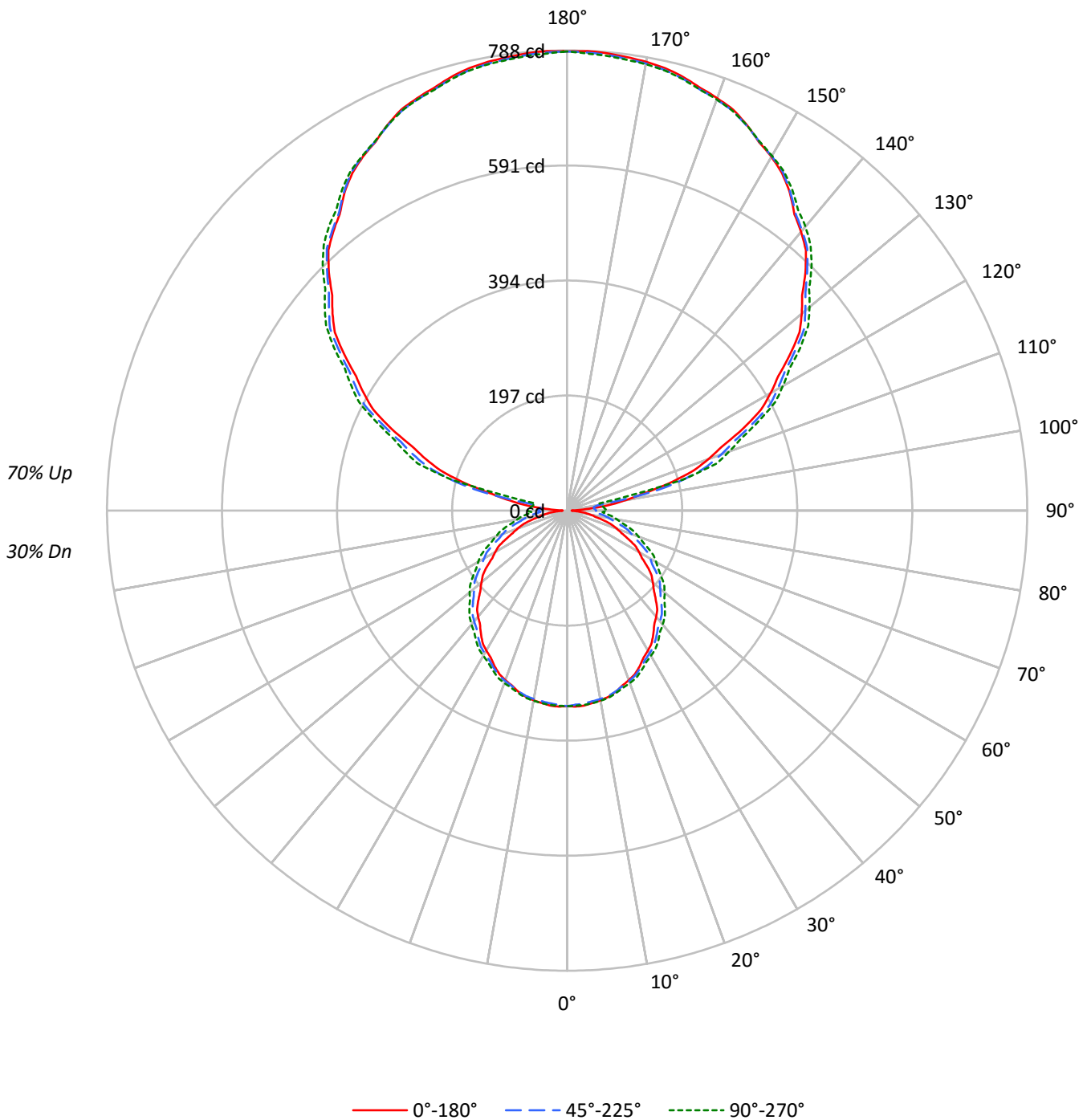
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P332723-927

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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	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°	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	0.9
10°-20°	90.8	2.5
20°-30°	137.4	3.8
30°-40°	166.2	4.6
40°-50°	175.7	4.9
50°-60°	165.4	4.6
60°-70°	137.2	3.8
70°-80°	96.4	2.7
80°-90°	56.8	1.6
90°-100°	59.2	1.7
100°-110°	195.4	5.5
110°-120°	344.0	9.6
120°-130°	425.4	11.9
130°-140°	449.4	12.6
140°-150°	417.3	11.7
150°-160°	335.9	9.4
160°-170°	216.7	6.1
170°-180°	74.7	2.1
0°-30°	259.9	7.3
0°-40°	426.1	11.9
0°-60°	767.2	21.5
0°-90°	1057.6	29.6
90°-120°	598.7	16.7
90°-150°	1890.8	52.9
90°-180°	2518.0	70.4
0°-180°	3575.6	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°	8	29	50	64	69	6
95°	37	31	46	59	63	45
105°	180	192	208	221	205	189
115°	333	338	349	358	361	327
125°	466	468	476	485	488	416
135°	577	577	581	588	592	445
145°	665	666	666	669	672	415
155°	729	729	727	729	728	336
165°	769	766	766	770	765	217
175°	786	783	783	788	782	75
180°	786	786	786	786	786	



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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°	11.5	15.1	18.9	22.5	26.2	29.9	33.8	37.7	41.5	45.4	48.0
90°	7.8	12.5	17.3	22.1	26.9	31.5	36.2	40.8	45.4	50.1	53.2
92.5°	13.1	16.2	19.3	22.3	25.4	29.3	33.9	38.5	43.2	47.8	50.9
95°	37.2	35.5	33.8	32.2	30.4	31.4	34.9	38.5	42.0	45.6	48.6
97.5°	73.1	78.3	83.4	88.5	93.6	90.6	79.5	68.2	57.0	45.8	48.1
100°	100.5	105.0	109.6	114.2	118.7	113.5	98.7	84.0	69.2	54.3	54.4
102.5°	131.6	135.2	138.9	142.5	146.1	148.3	149.2	150.0	150.8	151.6	129.8
105°	180.4	182.8	185.3	187.7	190.2	193.3	197.0	200.7	204.5	208.2	211.4
107.5°	226.2	228.1	229.8	231.6	233.3	236.1	239.9	243.7	247.5	251.3	254.0
110°	257.1	258.6	260.2	261.7	263.2	265.9	269.6	273.3	277.0	280.7	282.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	286.8	288.6	290.3	292.1	293.8	296.2	299.4	302.5	305.7	308.8	310.6
115°	332.7	333.8	335.0	336.1	337.3	339.1	341.7	344.2	346.7	349.3	351.3
117.5°	374.4	375.3	376.4	377.3	378.3	380.2	382.9	385.7	388.5	391.3	392.9
120°	402.3	403.1	403.9	404.6	405.4	406.9	409.2	411.5	413.8	416.1	418.0
122.5°	428.6	429.0	429.4	429.8	430.2	431.5	434.0	436.5	438.9	441.4	443.2
125°	466.0	466.5	466.9	467.4	467.8	468.9	470.7	472.5	474.4	476.2	478.2
127.5°	501.7	501.8	501.8	501.8	501.9	503.0	505.3	507.5	509.6	511.8	513.3
130°	524.5	524.5	524.6	524.6	524.7	525.5	527.3	529.0	530.7	532.4	534.1
132.5°	545.7	545.8	546.0	546.1	546.2	547.1	548.7	550.2	551.8	553.3	554.9
135°	577.0	576.9	576.8	576.6	576.5	576.9	578.1	579.2	580.3	581.4	583.0
137.5°	605.1	605.1	605.1	605.1	605.0	605.4	606.3	607.1	608.0	608.9	610.4
140°	623.4	623.7	623.8	624.0	624.2	624.5	624.8	625.1	625.5	625.8	627.3
142.5°	639.6	640.1	640.6	641.0	641.4	641.7	641.8	641.9	642.1	642.1	643.4
145°	664.9	665.1	665.4	665.7	666.1	666.2	666.2	666.2	666.2	666.2	666.9
147.5°	684.9	685.6	686.3	686.9	687.5	687.8	687.7	687.5	687.4	687.3	687.5
150°	699.6	700.0	700.4	700.8	701.3	701.5	701.3	701.2	701.1	700.9	700.9
152.5°	711.5	711.9	712.3	712.6	713.0	713.1	712.9	712.7	712.5	712.3	712.4
155°	728.6	728.7	728.8	729.0	729.1	729.0	728.6	728.2	727.8	727.4	727.9
157.5°	743.1	743.0	742.9	742.8	742.8	742.4	742.0	741.6	741.1	740.7	741.3
160°	751.5	751.1	750.8	750.4	750.0	749.6	749.6	749.4	749.2	749.2	750.0
162.5°	759.0	758.5	758.0	757.6	757.0	756.7	756.6	756.5	756.3	756.2	757.0
165°	768.6	767.9	767.2	766.6	766.0	765.6	765.6	765.6	765.6	765.6	766.7
167.5°	776.1	775.4	774.8	774.0	773.3	773.0	772.9	772.9	772.8	772.7	773.8
170°	780.3	779.5	778.7	777.9	777.2	776.8	777.0	777.1	777.2	777.4	778.4
172.5°	783.2	782.4	781.6	780.8	780.0	779.7	779.8	779.9	780.1	780.2	781.3
175°	786.2	785.4	784.7	783.9	783.1	782.8	782.8	783.0	783.2	783.2	784.4
177.5°	787.6	786.9	786.2	785.4	784.7	784.4	784.7	784.8	785.1	785.2	786.1
180°	786.2	786.2	786.2	786.2	786.2	786.2	786.2	786.2	786.2	786.2	786.2



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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°	50.5	53.2	55.7	57.4	58.1	58.9	59.7	60.5
90°	56.5	59.7	62.9	65.0	65.8	66.8	67.7	68.6
92.5°	54.0	57.2	60.3	62.3	63.0	63.7	64.4	65.1
95°	51.7	54.7	57.7	59.7	60.5	61.4	62.3	63.1
97.5°	50.4	52.6	54.9	56.4	57.3	58.1	58.9	59.8
100°	54.4	54.4	54.5	54.8	55.5	56.2	57.0	57.8
102.5°	108.1	86.3	64.6	53.9	54.7	55.3	56.0	56.7
105°	214.8	218.0	221.3	220.9	216.8	212.8	208.7	204.7
107.5°	256.6	259.2	261.8	263.6	264.7	265.9	267.0	268.1
110°	285.0	287.2	289.4	291.0	292.1	293.1	294.2	295.2



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CATALOG NUMBER: S124DIW-S350D770U927-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	312.4	314.3	316.0	317.5	318.7	319.8	321.0	322.2
115°	353.5	355.5	357.7	359.0	359.6	360.1	360.8	361.3
117.5°	394.6	396.2	398.0	399.1	399.7	400.4	400.9	401.6
120°	419.9	421.8	423.8	424.9	425.4	425.8	426.2	426.6
122.5°	445.0	446.9	448.7	449.8	450.1	450.4	450.8	451.1
125°	480.1	482.1	484.1	485.4	486.1	486.7	487.4	487.9
127.5°	514.7	516.1	517.5	518.5	519.0	519.4	519.8	520.3
130°	535.7	537.3	539.0	540.0	540.5	541.1	541.5	542.0
132.5°	556.5	558.0	559.6	560.6	561.0	561.4	561.7	562.1
135°	584.6	586.2	587.8	589.0	589.7	590.5	591.2	592.0
137.5°	611.9	613.4	614.9	615.8	616.2	616.5	616.8	617.1
140°	628.8	630.3	631.7	632.7	633.3	633.8	634.4	634.9
142.5°	644.6	645.9	647.1	647.9	648.3	648.6	649.0	649.4
145°	667.5	668.1	668.8	669.4	669.9	670.6	671.1	671.8
147.5°	687.6	687.8	687.9	688.2	688.6	689.0	689.4	689.8
150°	700.9	700.9	700.9	701.0	701.2	701.2	701.4	701.5
152.5°	712.6	712.8	713.0	713.1	713.0	713.0	712.9	712.8
155°	728.4	729.0	729.4	729.5	729.1	728.7	728.3	728.0
157.5°	742.0	742.8	743.4	743.4	742.8	742.0	741.3	740.7
160°	750.8	751.5	752.3	752.3	751.5	750.8	750.0	749.2
162.5°	757.8	758.5	759.3	759.3	758.4	757.5	756.6	755.7
165°	767.7	768.7	769.8	769.8	768.6	767.4	766.2	765.0
167.5°	775.0	776.1	777.3	777.2	775.9	774.6	773.2	772.0
170°	779.4	780.5	781.6	781.4	780.1	778.8	777.5	776.2
172.5°	782.3	783.3	784.3	784.2	782.8	781.4	780.0	778.6
175°	785.6	786.8	788.0	787.7	786.2	784.7	783.1	781.5
177.5°	787.0	787.7	788.6	788.4	787.1	785.8	784.7	783.4
180°	786.2	786.2	786.2	786.2	786.2	786.2	786.2	786.2

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