

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: P332718-830

Luminaire Tested: **S124DIW-S350D470U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332718-830
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: S124DIW-S350D470U830-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 470 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2891.9 lumens
Efficiency: N/A
Efficacy: 125.7 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: General Diffuse

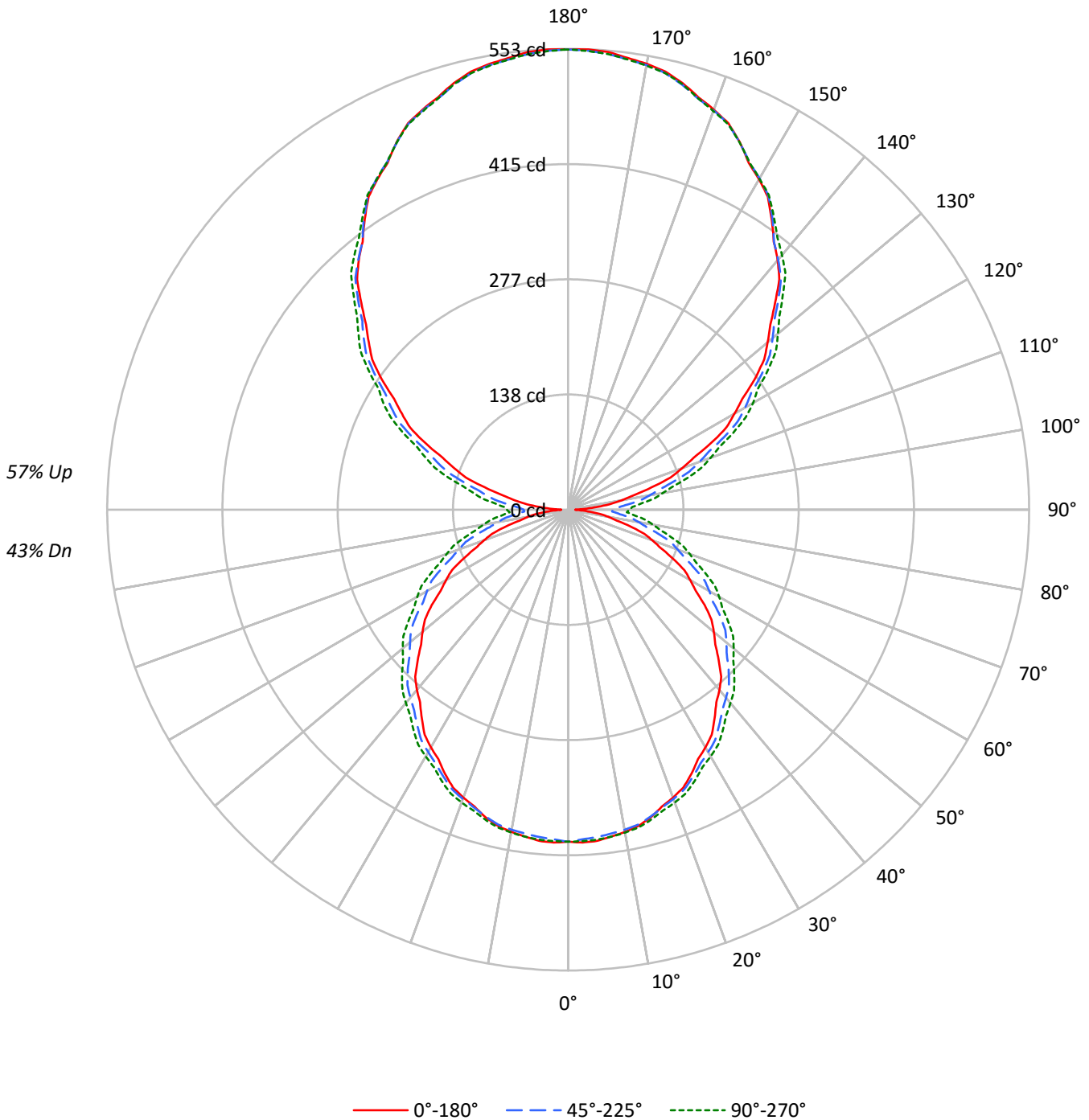
Input Watts (W): 23
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	43
1	95	91	87	83	87	83	79	76	69	66	64	55	53	52	43	42	41	35
2	87	79	72	67	79	72	66	62	59	55	52	48	45	42	37	35	33	28
3	79	69	61	55	71	63	56	51	52	47	43	42	38	35	33	30	28	24
4	72	61	53	46	65	56	49	43	46	41	36	37	33	30	29	26	24	20
5	66	54	46	39	60	49	42	37	41	35	31	33	29	26	26	23	21	17
6	60	48	40	34	55	44	37	32	37	31	27	30	26	22	23	20	18	15
7	56	43	35	30	51	40	33	28	33	28	24	27	23	20	21	18	16	13
8	52	39	31	26	47	36	29	24	30	25	21	25	21	18	20	16	14	12
9	48	36	28	23	44	33	26	22	28	22	19	23	19	16	18	15	13	11
10	45	33	25	21	41	30	24	19	25	20	17	21	17	14	17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3216	3216	3216
5°	3227	3143	3152
10°	3207	3092	3090
15°	3177	3032	3016
20°	3134	2967	2944
25°	3086	2893	2865
30°	3032	2819	2784
35°	2972	2744	2713
40°	2925	2674	2639
45°	2853	2607	2575
50°	2794	2532	2508
55°	2732	2460	2429
60°	2635	2369	2357
65°	2529	2272	2269
70°	2400	2161	2166
75°	2220	2037	2074
80°	2021	1919	1981
85°	1773	1815	1928



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	37.7	1.3
10°-20°	108.1	3.7
20°-30°	163.4	5.7
30°-40°	197.8	6.8
40°-50°	209.1	7.2
50°-60°	196.8	6.8
60°-70°	163.2	5.6
70°-80°	114.7	4.0
80°-90°	66.5	2.3
90°-100°	74.9	2.6
100°-110°	136.4	4.7
110°-120°	202.3	7.0
120°-130°	252.3	8.7
130°-140°	275.9	9.5
140°-150°	267.4	9.2
150°-160°	224.1	7.8
160°-170°	149.1	5.2
170°-180°	52.2	1.8
0°-30°	309.3	10.7
0°-40°	507.0	17.5
0°-60°	912.9	31.6
0°-90°	1257.2	43.5
90°-120°	413.6	14.3
90°-150°	1209.2	41.8
90°-180°	1635.0	56.5
0°-180°	2891.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	398	398	398	398	398	
5°	399	397	394	398	398	38
15°	382	383	381	385	385	108
25°	350	352	354	358	359	161
35°	306	311	316	322	324	192
45°	255	264	272	279	282	197
55°	200	210	223	231	234	178
65°	138	153	168	178	182	137
75°	77	93	112	124	128	82
85°	24	42	62	75	80	25
90°	8	31	54	68	74	6
95°	31	50	71	84	89	33
105°	104	113	131	143	148	110
115°	189	193	206	215	218	186
125°	273	273	283	291	293	243
135°	351	353	356	362	364	271
145°	425	427	427	429	430	266
155°	487	487	486	488	486	224
165°	530	529	528	530	529	149
175°	551	549	549	552	549	52
180°	552	552	552	552	552	



TEST NUMBER: P332718-830

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4
2.5°	399.8	399.5	399.4	399.1	398.9	398.4	397.8	397.2	396.5	395.9	396.4
5°	398.9	398.5	398.2	397.9	397.7	397.2	396.4	395.8	395.1	394.4	395.2
7.5°	395.5	395.3	395.1	394.9	394.7	394.4	393.8	393.2	392.7	392.1	392.9
10°	392.6	392.5	392.4	392.3	392.2	391.9	391.4	390.9	390.4	389.9	390.8
12.5°	388.7	388.6	388.6	388.6	388.6	388.4	388.0	387.8	387.4	387.1	387.9
15°	382.3	382.5	382.6	382.7	382.8	382.7	382.3	382.0	381.7	381.4	382.3
17.5°	373.7	374.0	374.3	374.6	374.8	375.0	374.9	374.8	374.8	374.8	375.7
20°	367.6	367.9	368.3	368.5	368.8	369.0	369.1	369.2	369.3	369.4	370.4
22.5°	360.8	361.2	361.6	361.9	362.3	362.6	362.8	363.0	363.2	363.4	364.3
25°	349.8	350.3	351.0	351.6	352.1	352.6	352.9	353.2	353.5	353.8	354.9
27.5°	337.4	338.4	339.2	340.1	340.9	341.6	342.0	342.5	343.0	343.5	344.4
30°	329.2	330.1	330.8	331.6	332.4	333.2	333.8	334.5	335.3	335.9	337.1
32.5°	320.4	321.3	322.3	323.2	324.1	325.0	325.7	326.5	327.3	328.1	329.3
35°	306.0	307.3	308.4	309.6	310.9	311.9	312.9	313.9	314.9	315.8	317.3
37.5°	291.7	293.0	294.5	295.8	297.2	298.4	299.7	301.0	302.2	303.4	304.8
40°	282.4	283.7	285.0	286.3	287.6	288.9	290.3	291.7	293.0	294.5	296.0
42.5°	271.7	273.1	274.6	276.1	277.5	279.0	280.7	282.3	283.9	285.5	287.2
45°	255.1	257.0	258.9	260.8	262.7	264.6	266.5	268.3	270.2	272.1	273.8
47.5°	239.4	241.4	243.3	245.2	247.1	249.2	251.4	253.6	255.8	258.0	259.7
50°	228.0	230.2	232.3	234.5	236.7	238.8	241.1	243.3	245.4	247.6	249.6
52.5°	216.6	218.8	220.9	223.1	225.3	227.6	230.1	232.6	235.1	237.6	239.6
55°	199.9	202.0	204.1	206.1	208.2	210.8	213.7	216.7	219.6	222.6	224.6
57.5°	181.3	183.8	186.3	189.0	191.5	194.3	197.3	200.2	203.1	206.1	208.5
60°	169.1	171.6	174.3	176.8	179.4	182.3	185.6	188.9	192.1	195.4	197.7
62.5°	157.3	160.1	163.0	165.8	168.5	171.6	174.8	178.1	181.4	184.7	187.0
65°	138.3	141.5	144.7	147.8	151.0	154.3	157.6	161.0	164.4	167.8	170.2
67.5°	120.0	123.4	126.8	130.2	133.5	137.0	140.6	144.2	147.8	151.4	153.9
70°	107.5	110.8	114.2	117.6	121.0	124.6	128.4	132.1	135.9	139.7	142.3
72.5°	95.4	98.9	102.3	105.8	109.1	112.9	116.9	120.9	124.9	128.9	131.5
75°	76.7	80.4	84.1	87.8	91.4	95.3	99.5	103.7	107.8	112.0	114.8
77.5°	59.4	63.2	67.1	71.0	74.8	79.0	83.3	87.8	92.1	96.4	99.2
80°	48.6	52.6	56.6	60.5	64.5	68.6	73.0	77.4	81.7	86.1	89.1
82.5°	37.9	42.0	46.2	50.3	54.4	58.6	63.1	67.4	71.7	76.2	79.2
85°	23.7	27.8	32.0	36.1	40.3	44.6	49.1	53.5	58.0	62.5	65.4
87.5°	13.5	17.7	22.0	26.2	30.4	34.9	39.3	43.8	48.4	52.8	55.8
90°	8.4	13.4	18.5	23.5	28.5	33.5	38.5	43.5	48.5	53.5	57.0
92.5°	15.9	20.6	25.4	30.3	35.0	39.8	44.6	49.4	54.1	58.9	62.1
95°	31.4	35.5	39.7	43.8	48.0	52.3	57.1	61.8	66.5	71.3	74.3
97.5°	50.0	53.5	57.0	60.5	64.0	68.1	73.0	77.8	82.6	87.4	90.3
100°	64.7	67.7	70.6	73.6	76.5	80.4	85.1	89.8	94.5	99.2	102.1
102.5°	80.4	82.8	85.2	87.7	90.1	93.6	98.1	102.6	107.3	111.8	114.7
105°	103.5	105.6	107.7	109.8	111.9	114.9	118.9	123.0	127.1	131.1	133.8
107.5°	128.7	130.4	132.1	133.8	135.6	138.3	141.8	145.2	148.8	152.3	155.0
110°	145.3	146.9	148.5	150.1	151.7	154.2	157.5	160.9	164.3	167.7	169.8



TEST NUMBER: P332718-830

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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	162.8	164.0	165.3	166.5	167.9	170.0	173.1	176.3	179.5	182.6	184.7
115°	188.9	189.8	190.7	191.5	192.5	194.4	197.4	200.4	203.3	206.3	208.4
117.5°	214.0	214.5	215.2	215.7	216.4	218.1	220.9	223.8	226.6	229.3	231.1
120°	230.3	231.0	231.7	232.3	233.0	234.7	237.2	239.8	242.4	245.0	246.5
122.5°	247.7	248.0	248.2	248.4	248.5	250.0	252.6	255.1	257.7	260.3	261.9
125°	273.0	272.9	272.8	272.7	272.6	273.7	276.2	278.5	280.9	283.2	284.9
127.5°	296.2	296.4	296.6	296.8	297.0	297.9	299.7	301.4	303.2	304.9	306.5
130°	312.3	312.5	312.6	312.8	313.0	313.9	315.5	317.1	318.7	320.3	321.9
132.5°	329.0	329.1	329.2	329.3	329.4	330.1	331.3	332.5	333.7	334.9	336.4
135°	350.7	351.3	351.9	352.4	353.0	353.6	354.3	355.0	355.7	356.4	357.8
137.5°	374.8	374.9	375.1	375.3	375.4	375.8	376.3	376.7	377.2	377.8	378.9
140°	390.9	391.0	391.1	391.2	391.2	391.2	391.4	391.5	391.6	391.7	392.9
142.5°	405.2	405.4	405.5	405.7	405.9	405.9	405.8	405.6	405.5	405.3	406.4
145°	425.4	425.7	425.9	426.2	426.5	426.7	426.8	426.9	427.0	427.1	427.6
147.5°	445.5	445.9	446.3	446.7	447.0	447.1	447.0	447.0	447.0	446.9	446.9
150°	457.9	458.2	458.5	458.7	459.0	459.1	459.1	459.1	459.1	459.1	459.1
152.5°	469.1	469.4	469.6	469.8	470.0	470.1	470.1	470.2	470.3	470.4	470.6
155°	486.9	486.9	486.9	486.9	486.9	486.8	486.7	486.6	486.5	486.4	486.8
157.5°	501.9	501.7	501.6	501.4	501.2	501.1	501.1	501.1	501.1	501.1	501.3
160°	510.9	510.8	510.7	510.6	510.5	510.4	510.3	510.2	510.1	510.0	510.3
162.5°	519.1	518.8	518.5	518.3	518.0	517.8	517.7	517.6	517.6	517.5	518.0
165°	530.0	529.7	529.4	529.1	528.9	528.7	528.5	528.3	528.1	527.9	528.5
167.5°	538.5	538.1	537.7	537.3	536.9	536.7	536.7	536.8	536.8	536.8	537.3
170°	543.3	542.8	542.3	541.9	541.4	541.2	541.3	541.4	541.5	541.6	542.2
172.5°	546.7	546.3	545.9	545.5	545.1	544.9	544.9	545.0	545.0	545.0	545.6
175°	551.4	550.9	550.4	550.0	549.5	549.2	549.1	549.0	548.9	548.8	549.5
177.5°	552.9	552.5	552.1	551.8	551.4	551.2	551.2	551.2	551.2	551.2	551.8
180°	552.2	552.2	552.2	552.2	552.2	552.2	552.2	552.2	552.2	552.2	552.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	398.4	398.4	398.4	398.4	398.4	398.4	398.4	398.4
2.5°	397.0	397.6	398.1	398.3	398.3	398.2	398.1	398.0
5°	396.0	396.7	397.6	397.9	397.8	397.7	397.6	397.5
7.5°	393.9	394.7	395.7	396.1	396.0	395.9	395.8	395.7
10°	391.7	392.6	393.5	393.9	393.8	393.7	393.6	393.5
12.5°	388.7	389.6	390.3	390.7	390.7	390.7	390.7	390.6
15°	383.2	384.1	385.0	385.4	385.3	385.2	385.1	385.0
17.5°	376.5	377.5	378.4	378.8	378.7	378.6	378.6	378.5
20°	371.4	372.4	373.3	373.9	373.9	373.9	373.9	373.9
22.5°	365.3	366.3	367.3	367.9	368.1	368.2	368.3	368.5
25°	356.0	357.0	358.2	358.7	358.8	358.9	359.0	359.1
27.5°	345.4	346.5	347.5	348.1	348.2	348.3	348.4	348.6
30°	338.1	339.2	340.3	340.9	341.1	341.4	341.6	341.8
32.5°	330.5	331.9	333.1	333.8	334.0	334.2	334.4	334.6
35°	318.7	320.0	321.4	322.3	322.5	322.8	323.2	323.5
37.5°	306.2	307.6	309.0	309.9	310.2	310.5	310.9	311.1
40°	297.5	298.9	300.4	301.3	301.7	302.2	302.6	302.9
42.5°	288.8	290.5	292.1	293.1	293.4	293.7	294.1	294.4
45°	275.5	277.2	278.9	279.9	280.5	281.0	281.4	281.9
47.5°	261.5	263.2	264.9	266.1	266.7	267.3	267.9	268.5
50°	251.6	253.5	255.5	256.8	257.4	258.0	258.6	259.2
52.5°	241.6	243.6	245.5	246.9	247.4	248.0	248.6	249.2
55°	226.6	228.6	230.5	231.9	232.4	233.0	233.7	234.2
57.5°	210.8	213.2	215.6	217.0	217.5	218.1	218.7	219.2
60°	200.0	202.3	204.5	206.0	206.9	207.6	208.5	209.2
62.5°	189.3	191.5	193.8	195.4	196.1	196.9	197.7	198.5
65°	172.7	175.2	177.7	179.3	180.1	180.9	181.7	182.5
67.5°	156.5	159.0	161.5	163.2	163.9	164.7	165.4	166.3
70°	145.0	147.7	150.3	152.0	152.7	153.4	154.1	154.8
72.5°	134.1	136.8	139.3	141.0	141.8	142.5	143.4	144.1
75°	117.5	120.3	123.1	124.9	125.8	126.7	127.6	128.5
77.5°	102.1	104.9	107.7	109.6	110.6	111.5	112.4	113.4
80°	92.1	95.0	98.0	99.9	100.7	101.5	102.3	103.0
82.5°	82.2	85.3	88.3	90.3	91.1	92.0	92.9	93.8
85°	68.4	71.4	74.4	76.3	77.3	78.3	79.3	80.3
87.5°	58.8	61.8	64.8	66.7	67.7	68.5	69.5	70.4
90°	60.4	63.9	67.3	69.6	70.5	71.5	72.5	73.5
92.5°	65.2	68.3	71.4	73.5	74.5	75.3	76.3	77.1
95°	77.2	80.1	83.1	85.0	86.0	86.8	87.8	88.6
97.5°	93.2	96.2	99.2	101.0	101.9	102.7	103.6	104.4
100°	105.0	107.8	110.7	112.5	113.2	113.9	114.6	115.3
102.5°	117.5	120.4	123.3	125.2	126.0	126.9	127.7	128.6
105°	136.7	139.4	142.1	144.1	145.2	146.2	147.3	148.4
107.5°	157.8	160.4	163.2	164.9	165.5	166.3	166.9	167.7
110°	171.8	173.9	176.0	177.6	178.7	179.7	180.9	181.9



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CATALOG NUMBER: S124DIW-S350D470U830-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	186.9	189.1	191.2	192.7	193.6	194.4	195.3	196.1
115°	210.5	212.5	214.7	216.0	216.6	217.3	217.8	218.4
117.5°	232.8	234.6	236.3	237.5	238.1	238.7	239.3	239.9
120°	248.0	249.5	251.0	252.3	253.3	254.3	255.2	256.2
122.5°	263.6	265.3	266.9	268.0	268.3	268.7	269.1	269.5
125°	286.6	288.3	290.0	291.1	291.5	291.9	292.3	292.8
127.5°	308.1	309.7	311.3	312.4	312.9	313.4	314.0	314.4
130°	323.4	325.0	326.6	327.5	327.7	328.0	328.2	328.4
132.5°	337.9	339.4	340.9	342.0	342.3	342.8	343.3	343.7
135°	359.2	360.5	361.9	362.8	363.2	363.4	363.7	364.0
137.5°	380.1	381.4	382.6	383.4	384.0	384.6	385.0	385.6
140°	394.1	395.3	396.4	397.3	397.7	398.0	398.5	398.9
142.5°	407.6	408.7	409.8	410.6	410.9	411.3	411.7	412.1
145°	428.1	428.6	429.1	429.4	429.5	429.6	429.7	429.9
147.5°	446.9	446.9	446.9	447.0	447.1	447.4	447.6	447.9
150°	459.1	459.1	459.1	459.1	459.0	458.9	458.8	458.7
152.5°	470.9	471.1	471.4	471.3	471.1	470.8	470.6	470.3
155°	487.2	487.6	488.0	488.0	487.6	487.2	486.8	486.4
157.5°	501.6	501.9	502.2	502.2	501.9	501.5	501.2	500.9
160°	510.6	510.9	511.1	511.0	510.6	510.1	509.5	509.1
162.5°	518.5	519.1	519.5	519.5	519.1	518.6	518.1	517.6
165°	529.0	529.6	530.2	530.3	529.9	529.5	529.1	528.8
167.5°	537.9	538.5	539.0	539.0	538.5	537.9	537.2	536.7
170°	542.7	543.3	543.8	543.8	543.1	542.4	541.8	541.1
172.5°	546.3	547.0	547.5	547.5	546.9	546.2	545.5	544.9
175°	550.2	550.8	551.5	551.5	550.8	550.2	549.5	548.8
177.5°	552.3	552.8	553.4	553.3	552.7	552.1	551.5	550.9
180°	552.2	552.2	552.2	552.2	552.2	552.2	552.2	552.2

(END OF REPORT)