

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: P332729-930

Luminaire Tested: **S124DIW-S350D1050U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332729-930
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-S350D1050U930-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1050 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4594.2 lumens
Efficiency: N/A
Efficacy: 120.9 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

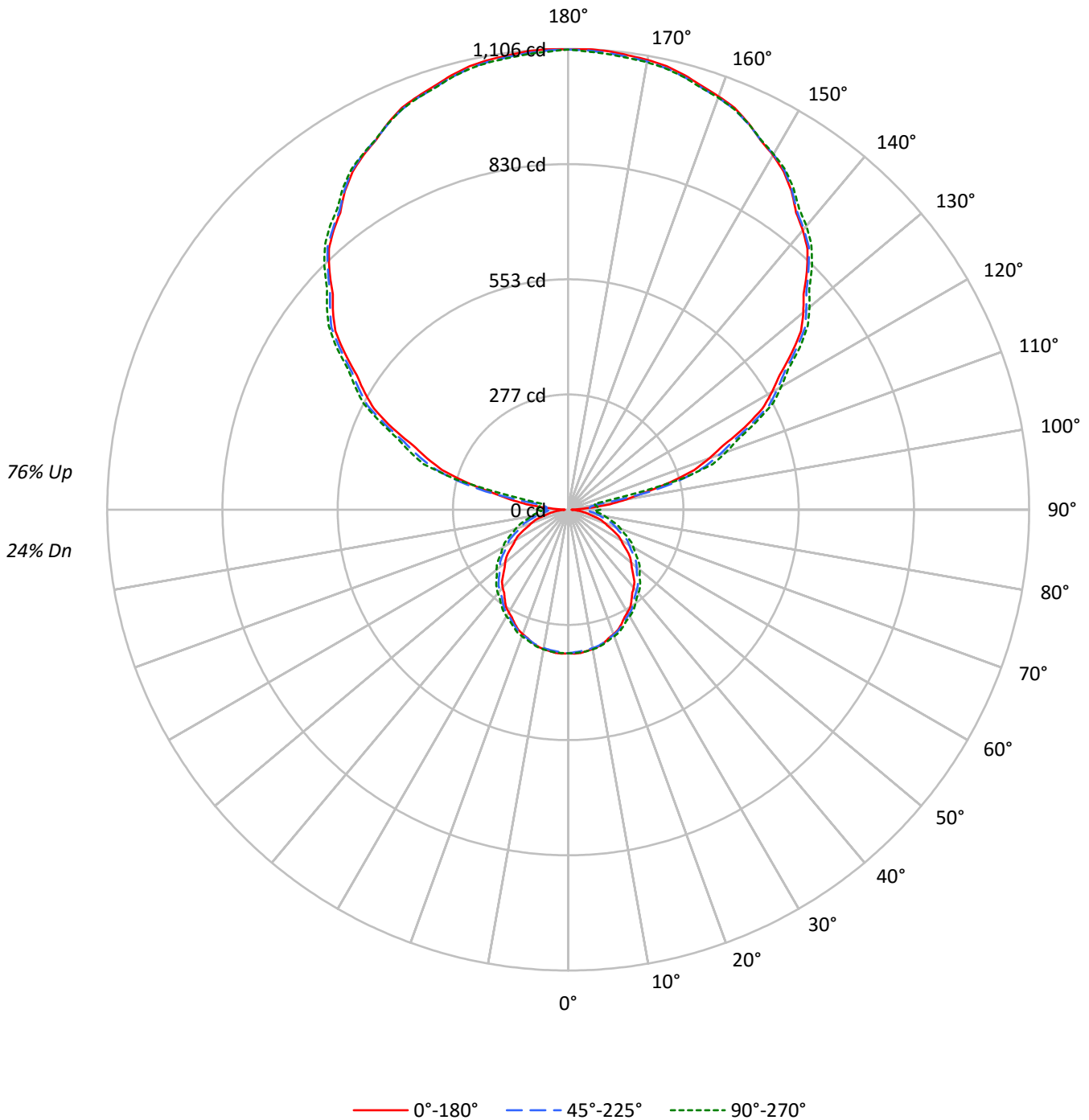
Input Watts (W): 38
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	101	101	101	90	90	90	90	69	69	69	50	50	50	32	32	32	24
1	91	87	83	80	81	77	74	71	59	57	55	43	41	40	27	27	26	19
2	83	76	70	64	73	67	62	58	52	48	45	37	35	33	24	23	21	15
3	76	66	59	53	67	59	53	48	45	41	38	33	30	28	21	19	18	13
4	69	58	51	45	61	52	45	40	40	35	32	29	26	23	19	17	15	11
5	63	52	44	38	56	46	39	34	36	31	27	26	23	20	17	15	13	9
6	58	46	38	33	51	41	34	30	32	27	23	23	20	17	15	13	12	8
7	53	41	34	28	47	37	30	26	29	24	20	21	18	15	14	12	10	7
8	49	37	30	25	44	34	27	23	26	21	18	19	16	13	12	10	9	6
9	46	34	27	22	41	30	24	20	24	19	16	17	14	12	11	10	8	6
10	43	31	24	19	38	28	22	18	22	17	14	16	13	11	11	9	7	5

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2782	2782	2782
5°	2791	2719	2726
10°	2774	2675	2673
15°	2749	2623	2608
20°	2711	2566	2547
25°	2669	2503	2478
30°	2623	2439	2408
35°	2571	2374	2347
40°	2530	2313	2282
45°	2468	2256	2228
50°	2417	2190	2169
55°	2363	2129	2101
60°	2280	2049	2039
65°	2187	1965	1962
70°	2076	1868	1874
75°	1922	1763	1793
80°	1750	1660	1713
85°	1534	1571	1669



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	32.6	0.7
10°-20°	93.5	2.0
20°-30°	141.4	3.1
30°-40°	171.1	3.7
40°-50°	180.8	3.9
50°-60°	170.2	3.7
60°-70°	141.2	3.1
70°-80°	99.2	2.2
80°-90°	59.3	1.3
90°-100°	71.1	1.5
100°-110°	265.5	5.8
110°-120°	477.3	10.4
120°-130°	594.2	12.9
130°-140°	629.8	13.7
140°-150°	586.0	12.8
150°-160°	471.9	10.3
160°-170°	304.4	6.6
170°-180°	104.9	2.3
0°-30°	267.5	5.8
0°-40°	438.6	9.5
0°-60°	789.6	17.2
0°-90°	1089.3	23.7
90°-120°	813.8	17.7
90°-150°	2623.8	57.1
90°-180°	3505.0	76.3
0°-180°	4594.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	345	345	345	345	345	
5°	345	344	341	344	344	33
15°	331	331	330	333	333	93
25°	303	305	306	310	311	139
35°	265	269	273	278	280	166
45°	221	228	235	242	244	171
55°	173	181	193	200	203	154
65°	120	132	145	154	158	119
75°	66	81	97	107	111	71
85°	20	37	54	65	70	22
90°	9	33	56	72	77	6
95°	50	37	52	66	71	62
105°	252	265	283	298	274	264
115°	466	473	484	494	497	459
125°	654	657	665	674	678	584
135°	810	810	816	823	827	624
145°	934	936	936	939	942	583
155°	1023	1024	1022	1025	1023	472
165°	1080	1076	1076	1081	1075	305
175°	1104	1100	1100	1107	1098	105
180°	1104	1104	1104	1104	1104	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6
2.5°	345.8	345.6	345.4	345.2	345.0	344.6	344.1	343.6	343.0	342.4	342.9
5°	345.0	344.7	344.5	344.2	344.0	343.6	342.9	342.3	341.8	341.1	341.9
7.5°	342.1	341.9	341.8	341.6	341.4	341.1	340.6	340.1	339.7	339.2	339.9
10°	339.6	339.5	339.4	339.3	339.2	339.0	338.6	338.1	337.7	337.3	338.0
12.5°	336.2	336.1	336.1	336.1	336.1	336.0	335.7	335.4	335.1	334.8	335.5
15°	330.7	330.8	330.9	331.0	331.1	331.0	330.7	330.4	330.2	330.0	330.7
17.5°	323.3	323.5	323.8	324.0	324.2	324.4	324.3	324.2	324.2	324.2	325.0
20°	318.0	318.2	318.5	318.8	319.0	319.2	319.3	319.4	319.4	319.5	320.4
22.5°	312.1	312.4	312.7	313.1	313.4	313.6	313.8	314.0	314.1	314.3	315.1
25°	302.6	303.0	303.6	304.1	304.6	305.0	305.2	305.5	305.7	306.1	307.0
27.5°	291.9	292.7	293.4	294.2	294.9	295.5	295.9	296.3	296.7	297.1	297.9
30°	284.8	285.5	286.2	286.8	287.6	288.2	288.8	289.3	290.0	290.6	291.6
32.5°	277.1	277.9	278.8	279.6	280.4	281.1	281.8	282.4	283.2	283.8	284.9
35°	264.7	265.8	266.8	267.8	268.9	269.8	270.7	271.5	272.4	273.2	274.4
37.5°	252.3	253.5	254.7	255.8	257.1	258.1	259.3	260.3	261.4	262.4	263.7
40°	244.3	245.4	246.5	247.6	248.7	249.9	251.1	252.3	253.5	254.7	256.0
42.5°	235.1	236.3	237.5	238.8	240.0	241.3	242.8	244.2	245.6	247.0	248.4
45°	220.7	222.3	224.0	225.6	227.2	228.9	230.5	232.1	233.7	235.4	236.8
47.5°	207.1	208.8	210.4	212.1	213.8	215.6	217.4	219.4	221.3	223.1	224.6
50°	197.2	199.1	201.0	202.8	204.7	206.6	208.6	210.4	212.3	214.2	215.9
52.5°	187.4	189.2	191.1	193.0	194.9	196.9	199.0	201.2	203.3	205.5	207.2
55°	172.9	174.7	176.5	178.3	180.1	182.3	184.8	187.4	190.0	192.6	194.3
57.5°	156.8	159.0	161.2	163.5	165.7	168.0	170.6	173.2	175.7	178.3	180.3
60°	146.3	148.5	150.7	153.0	155.2	157.7	160.5	163.4	166.2	169.0	171.0
62.5°	136.1	138.5	141.0	143.4	145.8	148.5	151.2	154.1	156.9	159.8	161.8
65°	119.6	122.4	125.1	127.8	130.6	133.5	136.3	139.3	142.2	145.1	147.2
67.5°	103.8	106.7	109.7	112.6	115.4	118.5	121.6	124.7	127.8	130.9	133.1
70°	93.0	95.9	98.8	101.7	104.7	107.8	111.0	114.3	117.6	120.8	123.1
72.5°	82.5	85.5	88.5	91.5	94.4	97.7	101.1	104.6	108.0	111.5	113.7
75°	66.4	69.5	72.7	75.9	79.1	82.4	86.1	89.7	93.3	96.9	99.3
77.5°	51.4	54.7	58.0	61.4	64.7	68.3	72.1	75.9	79.7	83.4	85.9
80°	42.1	45.5	48.9	52.3	55.8	59.4	63.2	66.9	70.7	74.5	77.0
82.5°	32.8	36.4	39.9	43.5	47.0	50.7	54.5	58.3	62.0	65.9	68.5
85°	20.5	24.1	27.6	31.2	34.9	38.6	42.5	46.3	50.1	54.1	56.6
87.5°	11.9	15.8	19.7	23.6	27.6	31.5	35.5	39.6	43.6	47.7	50.4
90°	8.6	14.1	19.6	25.0	30.4	35.8	40.9	46.1	51.2	56.3	60.0
92.5°	16.3	19.5	22.7	25.8	29.0	33.3	38.4	43.5	48.7	53.9	57.4
95°	50.5	47.0	43.6	40.2	36.8	36.9	40.7	44.4	48.0	51.8	55.2
97.5°	101.0	107.4	113.7	120.0	126.4	121.0	104.0	87.0	70.0	53.0	55.4
100°	139.7	145.3	150.7	156.3	161.8	153.6	131.7	109.7	87.6	65.7	64.9
102.5°	183.4	187.7	192.1	196.5	200.8	203.0	203.0	202.9	202.9	202.9	171.5
105°	252.1	254.9	257.7	260.6	263.3	266.8	270.9	275.0	279.1	283.2	287.0
107.5°	316.7	318.6	320.6	322.5	324.5	327.6	331.8	336.1	340.3	344.5	347.5
110°	360.0	361.7	363.5	365.2	367.0	369.9	374.0	378.1	382.2	386.3	388.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	401.9	404.0	406.0	408.1	410.2	412.9	416.2	419.6	423.0	426.4	428.2
115°	466.5	467.9	469.2	470.5	471.8	473.8	476.4	478.9	481.4	484.0	486.2
117.5°	525.1	526.4	527.5	528.7	529.9	532.0	534.9	537.9	540.9	543.8	545.5
120°	564.4	565.5	566.5	567.4	568.4	570.1	572.4	574.7	577.0	579.3	581.4
122.5°	601.4	601.9	602.4	602.9	603.4	605.0	607.6	610.2	612.8	615.4	617.3
125°	654.1	654.8	655.4	656.1	656.7	657.9	659.7	661.5	663.2	665.0	667.2
127.5°	704.3	704.3	704.4	704.6	704.7	706.0	708.4	710.9	713.4	715.9	717.4
130°	736.3	736.5	736.5	736.6	736.7	737.8	739.6	741.6	743.5	745.4	747.1
132.5°	766.1	766.3	766.5	766.8	767.0	768.1	769.9	771.7	773.5	775.3	776.9
135°	810.3	810.1	809.9	809.8	809.6	810.2	811.5	812.8	814.2	815.5	817.2
137.5°	849.8	849.8	849.8	849.7	849.7	850.3	851.3	852.5	853.5	854.7	856.3
140°	875.5	875.8	876.1	876.4	876.7	877.0	877.5	877.9	878.4	878.9	880.5
142.5°	898.4	899.0	899.7	900.3	900.9	901.3	901.6	901.7	901.9	902.0	903.4
145°	933.8	934.3	934.7	935.2	935.6	935.9	935.9	935.9	935.9	935.9	936.6
147.5°	962.1	963.0	963.9	964.9	965.8	966.2	966.0	965.9	965.6	965.5	965.7
150°	982.5	983.2	983.8	984.5	985.1	985.4	985.2	985.0	984.8	984.6	984.6
152.5°	999.4	1000.0	1000.5	1001.1	1001.7	1001.8	1001.5	1001.2	1000.9	1000.5	1000.8
155°	1023.4	1023.7	1023.9	1024.0	1024.2	1024.0	1023.4	1023.0	1022.4	1021.8	1022.5
157.5°	1043.8	1043.7	1043.6	1043.4	1043.3	1043.0	1042.4	1041.7	1041.1	1040.5	1041.5
160°	1055.6	1055.2	1054.6	1054.0	1053.4	1053.1	1053.0	1052.7	1052.6	1052.4	1053.4
162.5°	1066.2	1065.6	1064.9	1064.1	1063.5	1063.0	1062.8	1062.7	1062.5	1062.3	1063.4
165°	1079.6	1078.7	1077.8	1076.8	1076.0	1075.5	1075.5	1075.5	1075.5	1075.5	1077.0
167.5°	1090.2	1089.2	1088.3	1087.4	1086.4	1085.9	1085.7	1085.7	1085.6	1085.4	1087.0
170°	1096.2	1095.0	1094.0	1092.8	1091.8	1091.3	1091.4	1091.7	1091.8	1092.0	1093.5
172.5°	1100.1	1099.0	1097.9	1096.8	1095.7	1095.3	1095.4	1095.6	1095.8	1096.0	1097.5
175°	1104.4	1103.3	1102.2	1101.1	1100.0	1099.6	1099.8	1099.9	1100.1	1100.3	1102.0
177.5°	1106.4	1105.4	1104.3	1103.3	1102.3	1102.0	1102.2	1102.5	1102.8	1103.1	1104.2
180°	1104.4	1104.4	1104.4	1104.4	1104.4	1104.4	1104.4	1104.4	1104.4	1104.4	1104.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6
2.5°	343.4	343.9	344.4	344.5	344.5	344.5	344.4	344.3
5°	342.5	343.2	343.9	344.2	344.1	344.0	343.9	343.8
7.5°	340.7	341.4	342.3	342.6	342.5	342.4	342.3	342.3
10°	338.8	339.6	340.4	340.7	340.6	340.6	340.5	340.4
12.5°	336.2	337.0	337.6	337.9	337.9	337.9	337.9	337.9
15°	331.5	332.2	333.0	333.4	333.3	333.2	333.1	333.0
17.5°	325.7	326.5	327.3	327.7	327.6	327.5	327.5	327.4
20°	321.2	322.1	322.9	323.4	323.4	323.4	323.4	323.4
22.5°	316.0	316.8	317.7	318.2	318.4	318.5	318.6	318.8
25°	307.9	308.8	309.8	310.3	310.4	310.5	310.5	310.6
27.5°	298.8	299.7	300.6	301.1	301.2	301.3	301.3	301.5
30°	292.4	293.4	294.3	294.9	295.1	295.3	295.5	295.6
32.5°	285.9	287.1	288.1	288.8	288.9	289.1	289.3	289.4
35°	275.7	276.8	278.0	278.8	279.0	279.2	279.6	279.8
37.5°	264.9	266.0	267.3	268.1	268.3	268.6	268.9	269.1
40°	257.3	258.5	259.8	260.7	261.0	261.4	261.7	262.0
42.5°	249.8	251.3	252.7	253.6	253.8	254.0	254.4	254.6
45°	238.3	239.8	241.2	242.1	242.6	243.0	243.4	243.9
47.5°	226.2	227.6	229.2	230.2	230.7	231.2	231.7	232.3
50°	217.6	219.3	221.0	222.2	222.7	223.1	223.7	224.2
52.5°	209.0	210.7	212.4	213.5	214.0	214.5	215.1	215.6
55°	196.0	197.7	199.4	200.6	201.1	201.5	202.1	202.6
57.5°	182.4	184.4	186.5	187.7	188.2	188.7	189.1	189.6
60°	173.0	175.0	176.9	178.2	179.0	179.6	180.3	181.0
62.5°	163.7	165.7	167.6	169.0	169.7	170.3	171.0	171.7
65°	149.4	151.6	153.7	155.1	155.8	156.5	157.2	157.8
67.5°	135.3	137.5	139.7	141.1	141.8	142.4	143.1	143.8
70°	125.4	127.8	130.0	131.5	132.1	132.7	133.3	133.9
72.5°	116.0	118.3	120.5	122.0	122.6	123.3	124.0	124.7
75°	101.7	104.0	106.5	108.0	108.8	109.6	110.4	111.1
77.5°	88.3	90.7	93.2	94.8	95.6	96.4	97.3	98.1
80°	79.7	82.2	84.8	86.4	87.1	87.8	88.5	89.1
82.5°	71.1	73.8	76.4	78.1	78.8	79.6	80.4	81.1
85°	59.2	61.7	64.3	66.0	66.9	67.8	68.6	69.5
87.5°	53.2	55.8	58.5	60.3	61.1	62.0	62.8	63.6
90°	63.6	67.2	70.8	73.1	74.1	75.2	76.2	77.3
92.5°	60.9	64.4	67.9	70.1	70.8	71.6	72.4	73.1
95°	58.6	62.0	65.4	67.6	68.6	69.5	70.4	71.4
97.5°	57.7	60.1	62.5	64.1	65.0	65.9	66.9	67.8
100°	64.1	63.3	62.5	62.5	63.3	64.0	64.8	65.6
102.5°	140.1	108.7	77.2	61.9	62.6	63.3	64.0	64.7
105°	290.8	294.6	298.4	297.3	291.4	285.4	279.6	273.6
107.5°	350.4	353.4	356.2	358.3	359.6	361.0	362.3	363.6
110°	390.9	393.3	395.7	397.5	398.7	399.9	401.1	402.4



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CATALOG NUMBER: S124DIW-S350D1050U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	430.1	431.9	433.7	435.3	436.7	438.1	439.4	440.8
115°	488.5	490.8	493.0	494.5	495.0	495.7	496.3	496.8
117.5°	547.2	548.9	550.7	551.8	552.4	553.0	553.7	554.3
120°	583.4	585.5	587.6	588.8	589.1	589.5	589.8	590.1
122.5°	619.3	621.3	623.1	624.3	624.5	624.8	625.0	625.3
125°	669.4	671.6	673.8	675.2	675.9	676.6	677.3	678.0
127.5°	718.8	720.2	721.6	722.6	723.0	723.4	723.9	724.3
130°	748.9	750.6	752.4	753.4	754.0	754.5	755.0	755.5
132.5°	778.6	780.2	781.9	782.9	783.3	783.7	784.0	784.4
135°	819.0	820.7	822.4	823.8	824.6	825.5	826.4	827.3
137.5°	858.0	859.7	861.3	862.3	862.6	862.9	863.2	863.6
140°	882.2	883.9	885.5	886.6	887.3	887.9	888.5	889.1
142.5°	904.8	906.2	907.6	908.4	908.8	909.2	909.6	910.0
145°	937.3	938.0	938.7	939.4	940.1	940.9	941.5	942.2
147.5°	965.9	966.1	966.4	966.7	967.1	967.6	968.1	968.5
150°	984.6	984.6	984.6	984.7	984.9	985.1	985.3	985.5
152.5°	1001.1	1001.4	1001.7	1001.8	1001.7	1001.5	1001.4	1001.4
155°	1023.3	1024.0	1024.7	1024.8	1024.3	1023.8	1023.2	1022.6
157.5°	1042.4	1043.3	1044.3	1044.3	1043.3	1042.4	1041.5	1040.5
160°	1054.6	1055.6	1056.8	1056.8	1055.6	1054.6	1053.4	1052.4
162.5°	1064.5	1065.6	1066.7	1066.7	1065.4	1064.1	1062.9	1061.6
165°	1078.5	1079.9	1081.4	1081.2	1079.6	1078.0	1076.4	1074.6
167.5°	1088.7	1090.3	1091.8	1091.8	1090.0	1088.1	1086.3	1084.4
170°	1094.9	1096.4	1097.9	1097.7	1095.8	1094.1	1092.2	1090.4
172.5°	1098.9	1100.4	1101.9	1101.6	1099.6	1097.6	1095.7	1093.6
175°	1103.6	1105.2	1106.9	1106.6	1104.4	1102.2	1100.0	1097.8
177.5°	1105.5	1106.6	1107.8	1107.5	1105.7	1104.0	1102.2	1100.5
180°	1104.4	1104.4	1104.4	1104.4	1104.4	1104.4	1104.4	1104.4

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