

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: P332735-930

Luminaire Tested: **S124DIW-S350D1340U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332735-930
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-S350D1340U930-4F0-1E-UDD-D
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1340 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5552.3 lumens
Efficiency: N/A
Efficacy: 119.1 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

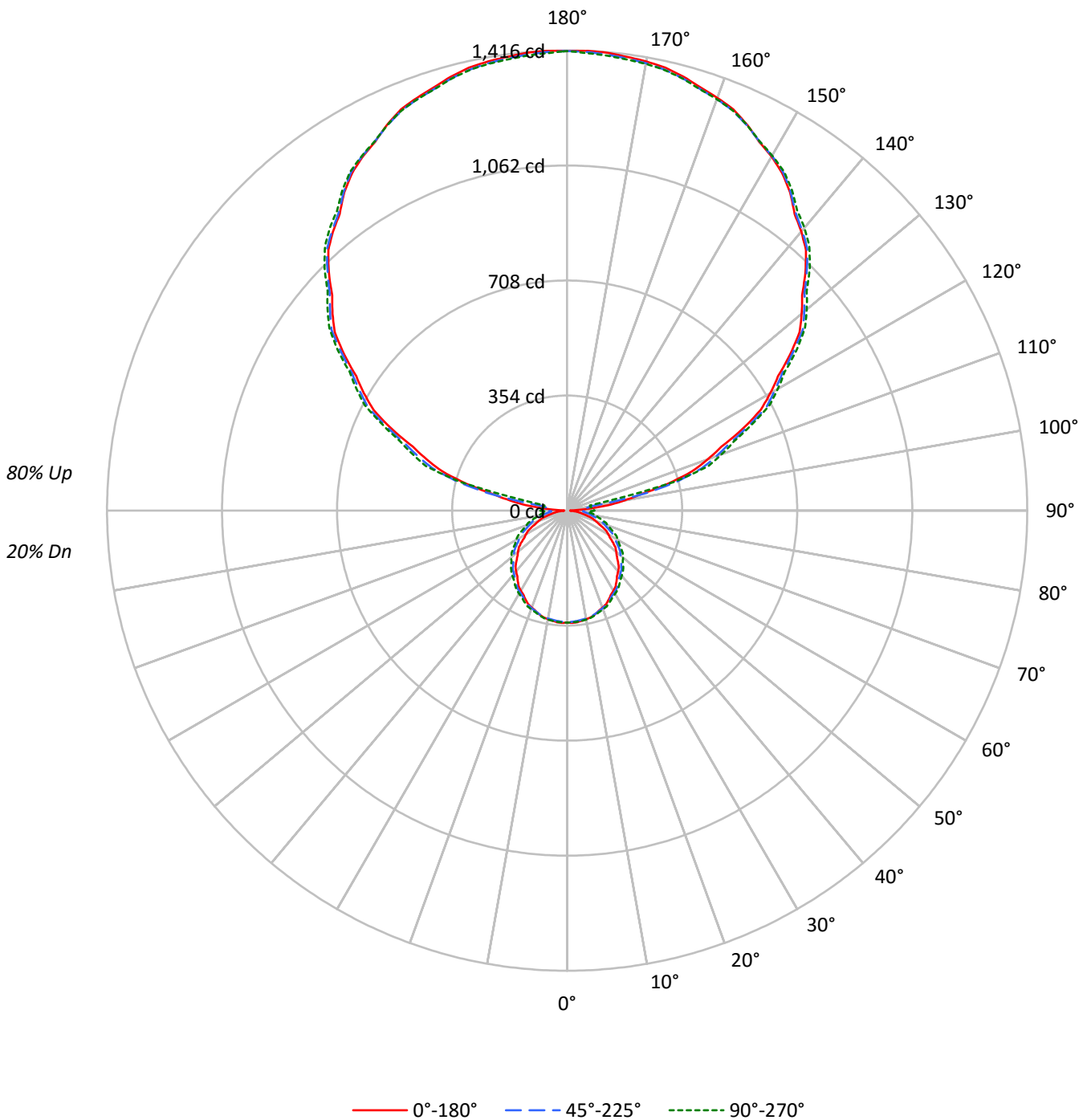
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	100	100	100	88	88	88	88	66	66	66	47	47	47	28	28	28	20
1	91	86	82	79	80	76	73	70	57	55	53	40	39	38	24	24	23	16
2	82	75	69	64	72	66	61	57	50	47	44	35	33	31	21	20	19	13
3	75	66	59	53	66	58	52	47	44	40	37	31	28	26	19	17	16	11
4	68	58	50	44	60	51	45	40	39	34	31	27	24	22	16	15	14	9
5	62	51	44	38	55	45	39	34	34	30	26	24	21	19	15	13	12	8
6	57	46	38	32	50	41	34	29	31	26	23	22	19	16	13	12	10	7
7	53	41	33	28	46	37	30	25	28	23	20	20	17	14	12	10	9	6
8	49	37	30	25	43	33	27	22	25	21	17	18	15	13	11	9	8	5
9	45	34	26	22	40	30	24	20	23	18	15	16	13	11	10	8	7	5
10	42	31	24	19	37	27	21	17	21	17	14	15	12	10	9	8	6	4

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	0.6
10°-20°	93.5	1.7
20°-30°	141.4	2.5
30°-40°	171.1	3.1
40°-50°	180.8	3.3
50°-60°	170.2	3.1
60°-70°	141.2	2.5
70°-80°	99.2	1.8
80°-90°	60.2	1.1
90°-100°	81.7	1.5
100°-110°	333.0	6.0
110°-120°	606.4	10.9
120°-130°	758.1	13.7
130°-140°	805.1	14.5
140°-150°	749.9	13.5
150°-160°	604.1	10.9
160°-170°	389.6	7.0
170°-180°	134.3	2.4
0°-30°	267.5	4.8
0°-40°	438.6	7.9
0°-60°	789.6	14.2
0°-90°	1090.2	19.6
90°-120°	1021.0	18.4
90°-150°	3334.1	60.0
90°-180°	4462.0	80.4
0°-180°	5552.3	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	36	62	78	84	7
95°	63	42	57	73	78	79
105°	322	336	355	372	340	337
115°	597	604	615	625	628	587
125°	837	841	848	858	862	747
135°	1037	1036	1043	1051	1056	799
145°	1195	1198	1198	1202	1205	747
155°	1310	1311	1308	1312	1309	604
165°	1382	1377	1377	1384	1376	390
175°	1414	1408	1409	1417	1405	135
180°	1414	1414	1414	1414	1414	



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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°	12.1	16.1	20.1	24.1	28.1	32.2	36.4	40.4	44.6	48.8	51.5
90°	9.4	15.3	21.4	27.4	33.4	39.2	44.8	50.3	55.9	61.5	65.4
92.5°	19.2	22.4	25.7	28.9	32.1	36.5	42.1	47.6	53.2	58.8	62.6
95°	63.2	58.0	52.8	47.7	42.6	41.8	45.6	49.3	53.1	56.8	60.6
97.5°	128.1	135.5	142.9	150.3	157.8	150.1	127.3	104.6	81.9	59.1	61.5
100°	177.7	184.1	190.6	197.1	203.5	192.2	163.1	134.0	104.9	75.8	74.2
102.5°	233.5	238.6	243.6	248.7	253.7	255.8	254.9	253.9	252.9	252.0	211.1
105°	321.8	324.9	328.0	331.2	334.3	338.0	342.3	346.7	351.1	355.4	359.6
107.5°	404.4	406.5	408.6	410.7	412.9	416.2	420.8	425.4	430.0	434.6	437.7
110°	459.9	461.9	463.7	465.6	467.6	470.7	475.1	479.6	484.0	488.4	490.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	513.7	516.1	518.4	520.7	523.1	526.0	529.5	533.0	536.5	540.1	541.9
115°	596.6	598.1	599.6	601.0	602.5	604.5	607.1	609.5	612.0	614.6	616.9
117.5°	671.6	673.0	674.4	675.8	677.3	679.5	682.6	685.6	688.7	691.8	693.5
120°	722.1	723.3	724.5	725.7	726.8	728.6	730.8	733.1	735.3	737.6	739.8
122.5°	769.5	770.1	770.7	771.3	771.9	773.6	776.2	778.9	781.6	784.3	786.3
125°	837.0	837.8	838.7	839.5	840.4	841.6	843.3	845.0	846.7	848.3	850.7
127.5°	901.2	901.3	901.5	901.6	901.8	903.2	906.0	908.7	911.4	914.1	915.5
130°	942.3	942.5	942.6	942.7	942.9	944.0	946.1	948.2	950.2	952.4	954.1
132.5°	980.4	980.7	981.0	981.4	981.7	982.9	984.9	986.9	988.9	990.8	992.5
135°	1037.1	1036.9	1036.7	1036.4	1036.2	1036.8	1038.4	1039.9	1041.5	1043.0	1044.8
137.5°	1087.7	1087.7	1087.7	1087.7	1087.7	1088.3	1089.6	1091.0	1092.3	1093.6	1095.4
140°	1120.6	1121.0	1121.4	1121.8	1122.2	1122.7	1123.2	1123.8	1124.3	1124.9	1126.7
142.5°	1150.0	1150.8	1151.6	1152.4	1153.2	1153.8	1154.1	1154.3	1154.5	1154.7	1156.2
145°	1195.3	1196.0	1196.6	1197.2	1197.8	1198.2	1198.2	1198.2	1198.2	1198.2	1198.9
147.5°	1231.5	1232.7	1234.0	1235.2	1236.4	1237.0	1236.7	1236.5	1236.2	1236.0	1236.2
150°	1257.8	1258.6	1259.5	1260.3	1261.2	1261.4	1261.3	1261.0	1260.8	1260.5	1260.5
152.5°	1279.4	1280.2	1280.9	1281.7	1282.4	1282.5	1282.1	1281.7	1281.2	1280.8	1281.2
155°	1310.3	1310.4	1310.7	1310.9	1311.2	1310.9	1310.3	1309.5	1308.8	1308.1	1309.0
157.5°	1336.3	1336.1	1335.9	1335.8	1335.7	1335.2	1334.4	1333.6	1332.9	1332.0	1333.3
160°	1351.4	1350.8	1350.1	1349.3	1348.7	1348.2	1347.9	1347.7	1347.4	1347.3	1348.7
162.5°	1365.0	1364.1	1363.3	1362.4	1361.5	1360.9	1360.7	1360.4	1360.2	1359.9	1361.3
165°	1382.2	1381.0	1379.8	1378.6	1377.4	1376.9	1376.9	1376.9	1376.9	1376.9	1378.8
167.5°	1395.7	1394.5	1393.3	1392.0	1390.8	1390.1	1390.0	1389.8	1389.7	1389.5	1391.6
170°	1403.3	1401.9	1400.4	1399.1	1397.7	1397.1	1397.3	1397.5	1397.7	1398.0	1399.9
172.5°	1408.3	1407.0	1405.6	1404.1	1402.7	1402.2	1402.4	1402.6	1402.8	1403.0	1404.9
175°	1413.9	1412.4	1411.0	1409.7	1408.2	1407.6	1407.9	1408.1	1408.3	1408.6	1410.7
177.5°	1416.4	1415.1	1413.7	1412.4	1411.1	1410.6	1411.0	1411.4	1411.8	1412.2	1413.6
180°	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9



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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°	54.3	57.1	59.8	61.6	62.5	63.3	64.2	65.0
90°	69.3	73.1	77.0	79.6	80.7	81.9	83.1	84.2
92.5°	66.4	70.3	74.1	76.4	77.2	77.9	78.8	79.5
95°	64.3	68.0	71.7	74.1	75.1	76.1	77.1	78.1
97.5°	63.8	66.3	68.6	70.4	71.3	72.2	73.2	74.2
100°	72.5	70.8	69.1	68.7	69.5	70.4	71.3	72.1
102.5°	170.2	129.4	88.5	68.5	69.2	70.0	70.7	71.3
105°	363.9	368.2	372.4	370.7	362.9	355.1	347.4	339.6
107.5°	440.9	444.0	447.2	449.5	451.0	452.5	454.0	455.5
110°	493.3	495.7	498.1	500.0	501.4	502.8	504.2	505.6



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CATALOG NUMBER: S124DIW-S350D1340U930-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	543.7	545.5	547.3	549.0	550.7	552.2	553.8	555.4
115°	619.3	621.7	623.9	625.5	626.1	626.6	627.3	627.9
117.5°	695.1	696.8	698.5	699.7	700.3	700.8	701.5	702.1
120°	742.0	744.1	746.3	747.5	747.8	748.0	748.2	748.4
122.5°	788.3	790.3	792.3	793.4	793.4	793.6	793.8	793.9
125°	853.0	855.3	857.7	859.2	860.0	860.7	861.4	862.2
127.5°	917.0	918.4	919.7	920.6	921.0	921.5	921.9	922.2
130°	955.9	957.7	959.4	960.6	961.2	961.6	962.1	962.6
132.5°	994.3	996.0	997.7	998.7	999.1	999.4	999.7	1000.0
135°	1046.7	1048.5	1050.4	1051.7	1052.7	1053.8	1054.8	1055.7
137.5°	1097.2	1098.9	1100.7	1101.8	1102.0	1102.4	1102.6	1102.9
140°	1128.5	1130.3	1132.1	1133.4	1134.1	1134.7	1135.4	1136.0
142.5°	1157.7	1159.2	1160.7	1161.6	1162.0	1162.5	1162.9	1163.3
145°	1199.6	1200.4	1201.1	1201.9	1202.7	1203.5	1204.4	1205.2
147.5°	1236.5	1236.7	1237.1	1237.4	1238.0	1238.4	1238.9	1239.4
150°	1260.5	1260.5	1260.5	1260.6	1260.9	1261.1	1261.3	1261.6
152.5°	1281.6	1282.0	1282.3	1282.5	1282.3	1282.1	1282.1	1281.9
155°	1310.0	1310.9	1311.9	1312.0	1311.3	1310.6	1309.9	1309.2
157.5°	1334.5	1335.7	1336.9	1336.9	1335.7	1334.5	1333.3	1332.0
160°	1350.1	1351.4	1352.9	1352.9	1351.4	1350.1	1348.7	1347.3
162.5°	1362.8	1364.2	1365.5	1365.5	1363.9	1362.3	1360.7	1359.1
165°	1380.6	1382.5	1384.4	1384.2	1382.2	1380.1	1377.9	1375.8
167.5°	1393.7	1395.7	1397.8	1397.7	1395.3	1392.9	1390.7	1388.3
170°	1401.7	1403.6	1405.5	1405.2	1403.0	1400.6	1398.2	1395.9
172.5°	1406.8	1408.8	1410.6	1410.3	1407.7	1405.2	1402.6	1400.1
175°	1412.8	1415.0	1417.1	1416.7	1413.9	1411.0	1408.2	1405.4
177.5°	1415.2	1416.7	1418.2	1417.8	1415.5	1413.3	1411.0	1408.8
180°	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9	1413.9

(END OF REPORT)