

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: P332736-935

Luminaire Tested: **S124DIW-S350D1340U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332736-935
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-S350D1340U935-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5250.6 lumens
Efficiency: N/A
Efficacy: 112.7 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: Semi-Indirect

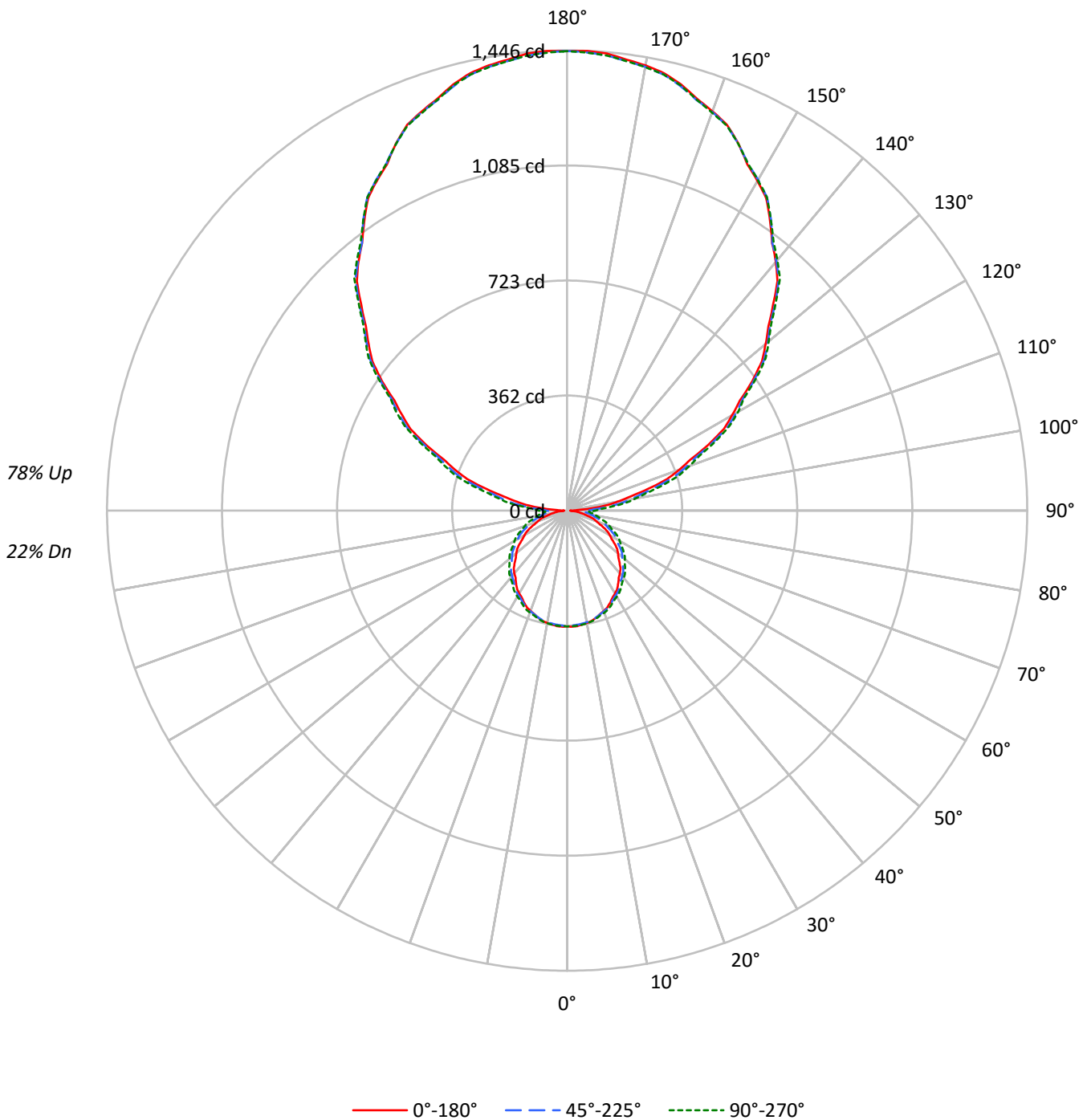
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	89	89	89	89	68	68	68	48	48	48	30	30	30	22
1	91	87	83	79	80	77	74	71	58	56	54	42	40	39	26	25	25	18
2	83	75	69	64	73	67	62	58	51	48	45	36	34	32	23	21	20	14
3	75	66	59	53	66	59	53	48	45	41	37	32	29	27	20	18	17	12
4	69	58	51	45	60	52	45	40	39	35	31	28	25	23	18	16	15	10
5	63	52	44	38	55	46	39	34	35	30	27	25	22	20	16	14	13	9
6	58	46	38	33	51	41	34	29	31	27	23	23	19	17	14	12	11	8
7	53	41	34	28	47	37	30	26	28	24	20	20	17	15	13	11	10	7
8	49	37	30	25	43	33	27	22	26	21	18	19	15	13	12	10	9	6
9	46	34	27	22	40	30	24	20	23	19	16	17	14	12	11	9	8	5
10	42	31	24	19	38	28	22	17	21	17	14	16	13	10	10	8	7	5

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	0.7
10°-20°	98.7	1.9
20°-30°	149.3	2.8
30°-40°	180.7	3.4
40°-50°	191.0	3.6
50°-60°	179.7	3.4
60°-70°	149.1	2.8
70°-80°	104.7	2.0
80°-90°	63.5	1.2
90°-100°	130.4	2.5
100°-110°	308.1	5.9
110°-120°	496.3	9.5
120°-130°	641.2	12.2
130°-140°	713.3	13.6
140°-150°	697.6	13.3
150°-160°	586.0	11.2
160°-170°	389.9	7.4
170°-180°	136.5	2.6
0°-30°	282.5	5.4
0°-40°	463.2	8.8
0°-60°	833.9	15.9
0°-90°	1151.3	21.9
90°-120°	934.8	17.8
90°-150°	2986.9	56.9
90°-180°	4099.0	78.1
0°-180°	5250.6	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°	10	38	65	83	89	9
95°	72	96	120	134	138	79
105°	264	274	293	306	313	280
115°	489	493	504	511	513	482
125°	711	711	719	725	725	633
135°	915	922	925	929	928	708
145°	1112	1115	1117	1118	1116	695
155°	1273	1273	1272	1276	1272	585
165°	1386	1382	1380	1386	1382	390
175°	1442	1436	1435	1442	1435	137
180°	1444	1444	1444	1444	1444	



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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°	12.7	17.0	21.2	25.5	29.7	34.0	38.4	42.7	47.1	51.5	54.4
90°	9.9	16.2	22.6	28.9	35.3	41.4	47.3	53.1	59.1	64.9	69.1
92.5°	30.0	36.5	42.9	49.2	55.6	61.5	66.7	72.1	77.3	82.6	86.0
95°	72.3	77.5	82.7	88.0	93.2	98.5	104.0	109.4	114.9	120.3	123.5
97.5°	121.8	126.2	130.5	134.9	139.2	144.3	150.0	155.8	161.4	167.1	170.4
100°	160.8	164.2	167.5	170.8	174.2	178.7	184.5	190.3	196.0	201.8	204.7
102.5°	201.9	204.4	206.8	209.3	211.7	215.8	221.2	226.7	232.2	237.7	240.7
105°	263.8	265.9	267.9	270.0	272.1	275.3	279.7	284.0	288.3	292.7	295.7
107.5°	329.7	331.4	333.2	335.0	336.7	339.3	342.7	345.9	349.3	352.6	355.5
110°	374.0	375.7	377.5	379.3	381.0	383.4	386.3	389.3	392.1	395.0	396.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	420.1	421.3	422.6	423.8	425.0	426.9	429.5	432.0	434.6	437.2	439.1
115°	489.3	490.1	490.9	491.7	492.6	494.1	496.5	498.9	501.4	503.8	505.5
117.5°	554.8	555.5	556.2	556.9	557.6	559.1	561.5	563.9	566.2	568.5	569.6
120°	598.3	599.6	600.8	602.1	603.4	604.9	606.8	608.7	610.6	612.4	613.0
122.5°	643.9	644.3	644.8	645.2	645.7	647.0	649.1	651.3	653.3	655.5	656.5
125°	710.7	710.6	710.5	710.4	710.3	711.3	713.3	715.3	717.3	719.4	720.6
127.5°	771.5	772.2	772.8	773.5	774.2	775.2	776.5	777.8	779.2	780.6	781.7
130°	814.2	814.8	815.5	816.1	816.7	817.8	819.2	820.7	822.2	823.5	824.8
132.5°	857.9	858.3	858.8	859.3	859.7	860.4	861.3	862.4	863.3	864.3	865.3
135°	915.3	916.8	918.3	919.8	921.3	922.3	923.0	923.6	924.3	924.9	925.8
137.5°	978.3	978.9	979.5	980.1	980.7	981.4	982.1	982.7	983.5	984.2	984.9
140°	1020.3	1020.7	1021.1	1021.5	1021.9	1022.2	1022.3	1022.4	1022.4	1022.5	1023.5
142.5°	1058.3	1058.9	1059.3	1059.8	1060.3	1060.4	1060.1	1059.9	1059.6	1059.4	1060.4
145°	1111.5	1112.3	1113.3	1114.1	1115.1	1115.6	1115.9	1116.1	1116.4	1116.6	1116.9
147.5°	1164.2	1165.3	1166.3	1167.4	1168.5	1169.0	1168.8	1168.6	1168.4	1168.2	1168.1
150°	1196.3	1197.2	1198.1	1199.0	1199.9	1200.3	1200.3	1200.3	1200.3	1200.3	1200.3
152.5°	1226.3	1226.9	1227.5	1228.0	1228.6	1229.1	1229.2	1229.4	1229.7	1229.9	1230.5
155°	1272.9	1272.9	1272.9	1272.9	1272.9	1272.8	1272.6	1272.3	1272.0	1271.9	1272.8
157.5°	1312.3	1311.8	1311.4	1310.9	1310.4	1310.2	1310.2	1310.1	1310.1	1310.0	1310.8
160°	1335.5	1335.2	1335.0	1334.7	1334.5	1334.2	1333.9	1333.8	1333.5	1333.3	1333.9
162.5°	1356.9	1356.2	1355.6	1355.0	1354.4	1353.9	1353.7	1353.4	1353.1	1352.9	1354.3
165°	1385.7	1385.0	1384.2	1383.5	1382.8	1382.2	1381.6	1381.1	1380.6	1380.1	1381.6
167.5°	1407.8	1406.8	1405.8	1404.7	1403.7	1403.2	1403.3	1403.3	1403.3	1403.3	1404.9
170°	1420.3	1419.1	1417.9	1416.6	1415.4	1414.9	1415.1	1415.4	1415.7	1415.8	1417.4
172.5°	1429.3	1428.2	1427.2	1426.2	1425.1	1424.6	1424.7	1424.7	1424.8	1424.8	1426.5
175°	1441.6	1440.3	1439.1	1437.9	1436.6	1435.8	1435.6	1435.4	1435.1	1434.9	1436.6
177.5°	1445.5	1444.6	1443.6	1442.6	1441.6	1441.1	1441.1	1441.1	1441.1	1441.1	1442.5
180°	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8



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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°	57.3	60.2	63.1	65.1	66.0	66.8	67.8	68.6
90°	73.2	77.2	81.4	84.0	85.2	86.4	87.7	88.9
92.5°	89.5	93.0	96.4	98.7	99.6	100.7	101.7	102.7
95°	126.7	129.9	133.1	135.1	135.9	136.7	137.5	138.4
97.5°	173.7	176.9	180.2	182.3	183.0	183.8	184.6	185.4
100°	207.7	210.6	213.6	215.3	216.0	216.6	217.2	217.9
102.5°	243.8	246.9	249.9	251.9	252.9	253.7	254.7	255.5
105°	298.7	301.7	304.7	306.9	308.4	309.9	311.3	312.8
107.5°	358.4	361.4	364.3	366.0	366.6	367.2	367.8	368.4
110°	398.2	399.8	401.4	402.9	404.4	405.9	407.3	408.8



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CATALOG NUMBER: S124DIW-S350D1340U935-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	441.0	442.9	444.9	446.3	447.1	448.0	448.8	449.7
115°	507.2	509.0	510.7	511.8	512.2	512.6	513.0	513.3
117.5°	570.6	571.7	572.7	573.3	573.6	573.8	574.0	574.3
120°	613.6	614.2	614.8	615.6	616.9	618.1	619.3	620.5
122.5°	657.5	658.4	659.4	659.7	659.5	659.3	659.0	658.8
125°	721.8	723.0	724.3	724.9	725.0	725.0	725.0	725.0
127.5°	782.8	783.9	785.1	785.7	786.0	786.2	786.4	786.6
130°	825.9	827.0	828.1	828.5	828.0	827.6	827.1	826.6
132.5°	866.4	867.5	868.5	869.1	869.3	869.4	869.5	869.7
135°	926.8	927.7	928.7	929.1	928.8	928.7	928.5	928.2
137.5°	985.6	986.2	986.9	987.6	988.2	988.8	989.4	990.0
140°	1024.4	1025.3	1026.2	1026.8	1027.0	1027.2	1027.4	1027.6
142.5°	1061.4	1062.3	1063.3	1063.9	1064.3	1064.6	1065.0	1065.3
145°	1117.2	1117.5	1117.8	1117.8	1117.4	1117.0	1116.6	1116.2
147.5°	1167.9	1167.9	1167.7	1167.7	1167.7	1167.8	1167.8	1167.9
150°	1200.3	1200.3	1200.3	1200.2	1200.0	1199.7	1199.5	1199.3
152.5°	1231.1	1231.7	1232.3	1232.2	1231.6	1230.9	1230.3	1229.6
155°	1273.8	1274.8	1275.8	1275.8	1274.8	1273.8	1272.8	1271.9
157.5°	1311.5	1312.3	1313.0	1312.9	1312.1	1311.2	1310.4	1309.6
160°	1334.7	1335.5	1336.2	1335.9	1334.7	1333.5	1332.2	1331.0
162.5°	1355.6	1356.9	1358.2	1358.3	1357.0	1355.8	1354.6	1353.3
165°	1383.1	1384.6	1386.1	1386.4	1385.3	1384.3	1383.4	1382.3
167.5°	1406.4	1407.8	1409.3	1409.3	1407.7	1406.2	1404.7	1403.2
170°	1418.8	1420.3	1421.9	1421.7	1420.0	1418.2	1416.5	1414.8
172.5°	1428.1	1429.9	1431.6	1431.5	1429.8	1428.1	1426.3	1424.6
175°	1438.3	1440.0	1441.8	1441.8	1440.0	1438.3	1436.6	1434.9
177.5°	1443.9	1445.3	1446.7	1446.6	1445.0	1443.4	1441.8	1440.2
180°	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8	1443.8

(END OF REPORT)