

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: P332736-830

Luminaire Tested: **S124DIW-S350D1340U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332736-830
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-S350D1340U830-4F0-1E-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: 5747.8 lumens
Efficiency: N/A
Efficacy: 123.3 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

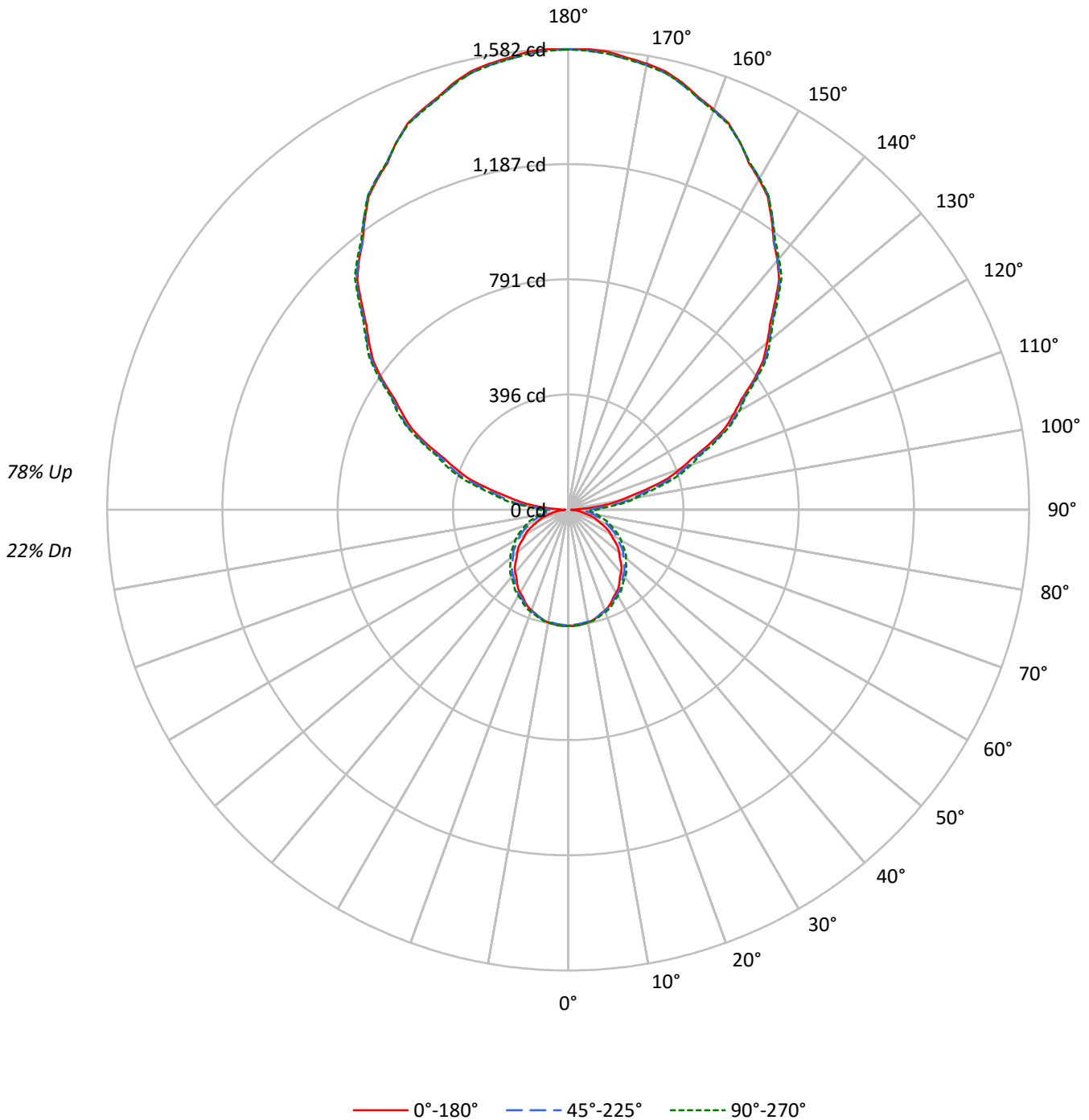
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	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	0.7
10°-20°	108.1	1.9
20°-30°	163.4	2.8
30°-40°	197.8	3.4
40°-50°	209.1	3.6
50°-60°	196.8	3.4
60°-70°	163.2	2.8
70°-80°	114.7	2.0
80°-90°	69.5	1.2
90°-100°	142.7	2.5
100°-110°	337.3	5.9
110°-120°	543.3	9.5
120°-130°	701.9	12.2
130°-140°	780.8	13.6
140°-150°	763.7	13.3
150°-160°	641.5	11.2
160°-170°	426.8	7.4
170°-180°	149.5	2.6
0°-30°	309.3	5.4
0°-40°	507.0	8.8
0°-60°	912.9	15.9
0°-90°	1260.3	21.9
90°-120°	1023.3	17.8
90°-150°	3269.7	56.9
90°-180°	4488.0	78.1
0°-180°	5747.8	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°	11	42	71	91	97	9
95°	79	105	132	147	152	86
105°	289	300	320	335	342	307
115°	536	540	552	560	562	528
125°	778	778	788	793	794	693
135°	1002	1009	1012	1017	1016	775
145°	1217	1221	1222	1224	1222	761
155°	1394	1393	1392	1397	1392	641
165°	1517	1513	1511	1518	1513	427
175°	1578	1572	1571	1578	1571	150
180°	1580	1580	1580	1580	1580	



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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°	13.9	18.6	23.2	27.9	32.5	37.2	42.0	46.8	51.6	56.4	59.6
90°	10.8	17.7	24.7	31.7	38.6	45.3	51.7	58.2	64.7	71.1	75.6
92.5°	32.9	40.0	46.9	53.9	60.9	67.3	73.0	78.9	84.6	90.4	94.2
95°	79.2	84.8	90.6	96.3	102.0	107.8	113.9	119.8	125.7	131.7	135.2
97.5°	133.4	138.2	142.9	147.7	152.4	158.0	164.2	170.5	176.7	182.9	186.5
100°	176.1	179.7	183.3	187.0	190.7	195.7	202.0	208.3	214.6	220.9	224.1
102.5°	221.0	223.8	226.4	229.1	231.8	236.2	242.1	248.2	254.2	260.2	263.5
105°	288.8	291.1	293.3	295.6	297.8	301.3	306.1	310.9	315.7	320.4	323.7
107.5°	360.9	362.8	364.8	366.7	368.6	371.5	375.1	378.7	382.4	386.0	389.2
110°	409.4	411.3	413.2	415.2	417.1	419.7	422.9	426.1	429.2	432.4	434.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	459.9	461.2	462.6	463.9	465.2	467.3	470.1	473.0	475.8	478.6	480.7
115°	535.6	536.5	537.4	538.3	539.2	540.9	543.6	546.2	548.8	551.5	553.4
117.5°	607.4	608.1	608.9	609.6	610.4	612.1	614.6	617.3	619.8	622.4	623.5
120°	655.0	656.4	657.7	659.1	660.5	662.2	664.3	666.4	668.5	670.4	671.1
122.5°	704.8	705.3	705.9	706.3	706.8	708.2	710.6	712.9	715.2	717.6	718.7
125°	778.0	777.9	777.8	777.7	777.6	778.6	780.9	783.1	785.2	787.5	788.8
127.5°	844.6	845.4	846.0	846.8	847.5	848.6	850.1	851.5	853.0	854.5	855.7
130°	891.3	891.9	892.7	893.3	894.1	895.2	896.8	898.4	900.0	901.5	902.9
132.5°	939.1	939.6	940.1	940.7	941.1	941.9	942.9	944.1	945.1	946.1	947.3
135°	1002.0	1003.6	1005.3	1006.9	1008.5	1009.7	1010.4	1011.1	1011.8	1012.5	1013.5
137.5°	1070.9	1071.6	1072.2	1072.9	1073.6	1074.3	1075.1	1075.8	1076.7	1077.4	1078.2
140°	1116.9	1117.4	1117.8	1118.2	1118.7	1119.0	1119.1	1119.2	1119.3	1119.4	1120.4
142.5°	1158.6	1159.1	1159.6	1160.2	1160.7	1160.8	1160.6	1160.3	1160.0	1159.7	1160.8
145°	1216.7	1217.7	1218.7	1219.7	1220.7	1221.3	1221.5	1221.8	1222.1	1222.4	1222.7
147.5°	1274.4	1275.6	1276.8	1278.0	1279.2	1279.7	1279.5	1279.3	1279.0	1278.8	1278.7
150°	1309.6	1310.6	1311.5	1312.6	1313.5	1314.0	1314.0	1314.0	1314.0	1314.0	1314.0
152.5°	1342.5	1343.1	1343.8	1344.3	1345.0	1345.5	1345.7	1345.9	1346.1	1346.3	1347.0
155°	1393.5	1393.5	1393.5	1393.5	1393.5	1393.4	1393.1	1392.8	1392.5	1392.3	1393.4
157.5°	1436.5	1436.1	1435.6	1435.0	1434.5	1434.3	1434.3	1434.2	1434.2	1434.1	1434.9
160°	1462.0	1461.7	1461.4	1461.1	1460.8	1460.6	1460.3	1460.1	1459.8	1459.5	1460.3
162.5°	1485.4	1484.7	1484.0	1483.3	1482.6	1482.1	1481.9	1481.6	1481.3	1481.0	1482.5
165°	1516.9	1516.2	1515.3	1514.5	1513.7	1513.1	1512.5	1511.9	1511.4	1510.8	1512.5
167.5°	1541.2	1540.0	1538.9	1537.8	1536.6	1536.1	1536.2	1536.2	1536.3	1536.3	1537.9
170°	1554.8	1553.5	1552.2	1550.8	1549.4	1548.9	1549.2	1549.4	1549.7	1549.9	1551.6
172.5°	1564.6	1563.5	1562.4	1561.2	1560.1	1559.5	1559.6	1559.6	1559.7	1559.7	1561.6
175°	1578.1	1576.7	1575.4	1574.0	1572.6	1571.8	1571.6	1571.3	1571.0	1570.7	1572.6
177.5°	1582.4	1581.4	1580.3	1579.2	1578.1	1577.6	1577.6	1577.6	1577.6	1577.6	1579.1
180°	1580.5	1580.5	1580.5	1580.5	1580.5	1580.5	1580.5	1580.5	1580.5	1580.5	1580.5



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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°	62.8	65.9	69.1	71.3	72.2	73.1	74.2	75.1
90°	80.1	84.5	89.1	92.0	93.3	94.6	96.0	97.4
92.5°	98.0	101.8	105.6	108.0	109.1	110.2	111.3	112.4
95°	138.7	142.2	145.7	147.9	148.7	149.7	150.5	151.5
97.5°	190.1	193.7	197.3	199.5	200.4	201.2	202.1	202.9
100°	227.3	230.5	233.8	235.7	236.5	237.1	237.8	238.6
102.5°	266.9	270.3	273.6	275.8	276.8	277.8	278.8	279.7
105°	327.0	330.3	333.6	336.0	337.6	339.2	340.8	342.4
107.5°	392.4	395.6	398.8	400.7	401.3	402.0	402.7	403.3
110°	435.9	437.7	439.4	441.1	442.7	444.3	445.9	447.5



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CATALOG NUMBER: S124DIW-S350D1340U830-4F0-1E-UDD-D1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	482.8	484.8	487.0	488.5	489.5	490.4	491.3	492.3
115°	555.3	557.2	559.1	560.2	560.7	561.1	561.6	561.9
117.5°	624.6	625.8	627.0	627.6	627.9	628.1	628.4	628.7
120°	671.8	672.3	673.0	673.9	675.3	676.7	678.0	679.3
122.5°	719.7	720.8	721.8	722.2	722.0	721.7	721.4	721.1
125°	790.1	791.5	792.9	793.5	793.6	793.6	793.7	793.7
127.5°	857.0	858.2	859.4	860.2	860.4	860.6	860.9	861.1
130°	904.1	905.3	906.5	906.9	906.4	906.0	905.4	904.9
132.5°	948.5	949.6	950.7	951.4	951.6	951.8	951.9	952.1
135°	1014.6	1015.6	1016.6	1017.1	1016.8	1016.6	1016.4	1016.2
137.5°	1078.9	1079.6	1080.3	1081.1	1081.8	1082.4	1083.1	1083.7
140°	1121.4	1122.4	1123.4	1124.1	1124.3	1124.5	1124.7	1124.9
142.5°	1161.9	1162.9	1164.0	1164.7	1165.1	1165.5	1165.8	1166.2
145°	1223.0	1223.3	1223.7	1223.6	1223.2	1222.8	1222.4	1221.9
147.5°	1278.6	1278.5	1278.3	1278.3	1278.3	1278.4	1278.4	1278.5
150°	1314.0	1314.0	1314.0	1313.9	1313.6	1313.3	1313.1	1312.9
152.5°	1347.6	1348.3	1349.0	1348.9	1348.2	1347.5	1346.8	1346.0
155°	1394.5	1395.5	1396.7	1396.7	1395.5	1394.5	1393.4	1392.3
157.5°	1435.7	1436.5	1437.4	1437.3	1436.3	1435.4	1434.5	1433.6
160°	1461.1	1462.0	1462.7	1462.4	1461.1	1459.8	1458.4	1457.1
162.5°	1483.9	1485.4	1486.9	1487.0	1485.5	1484.2	1482.9	1481.5
165°	1514.1	1515.7	1517.4	1517.7	1516.6	1515.4	1514.4	1513.3
167.5°	1539.5	1541.2	1542.8	1542.8	1541.1	1539.4	1537.8	1536.1
170°	1553.2	1554.8	1556.5	1556.3	1554.4	1552.6	1550.7	1548.8
172.5°	1563.4	1565.3	1567.2	1567.1	1565.2	1563.3	1561.4	1559.5
175°	1574.5	1576.4	1578.4	1578.4	1576.4	1574.5	1572.6	1570.7
177.5°	1580.6	1582.2	1583.7	1583.6	1581.9	1580.1	1578.4	1576.6
180°	1580.5	1580.5	1580.5	1580.5	1580.5	1580.5	1580.5	1580.5

(END OF REPORT)