

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: P332738

Luminaire Tested: **S124DIW-S350D1340U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332738
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-S350D1340U835-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH 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: 6173.2 lumens
Efficiency: N/A
Efficacy: 132.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

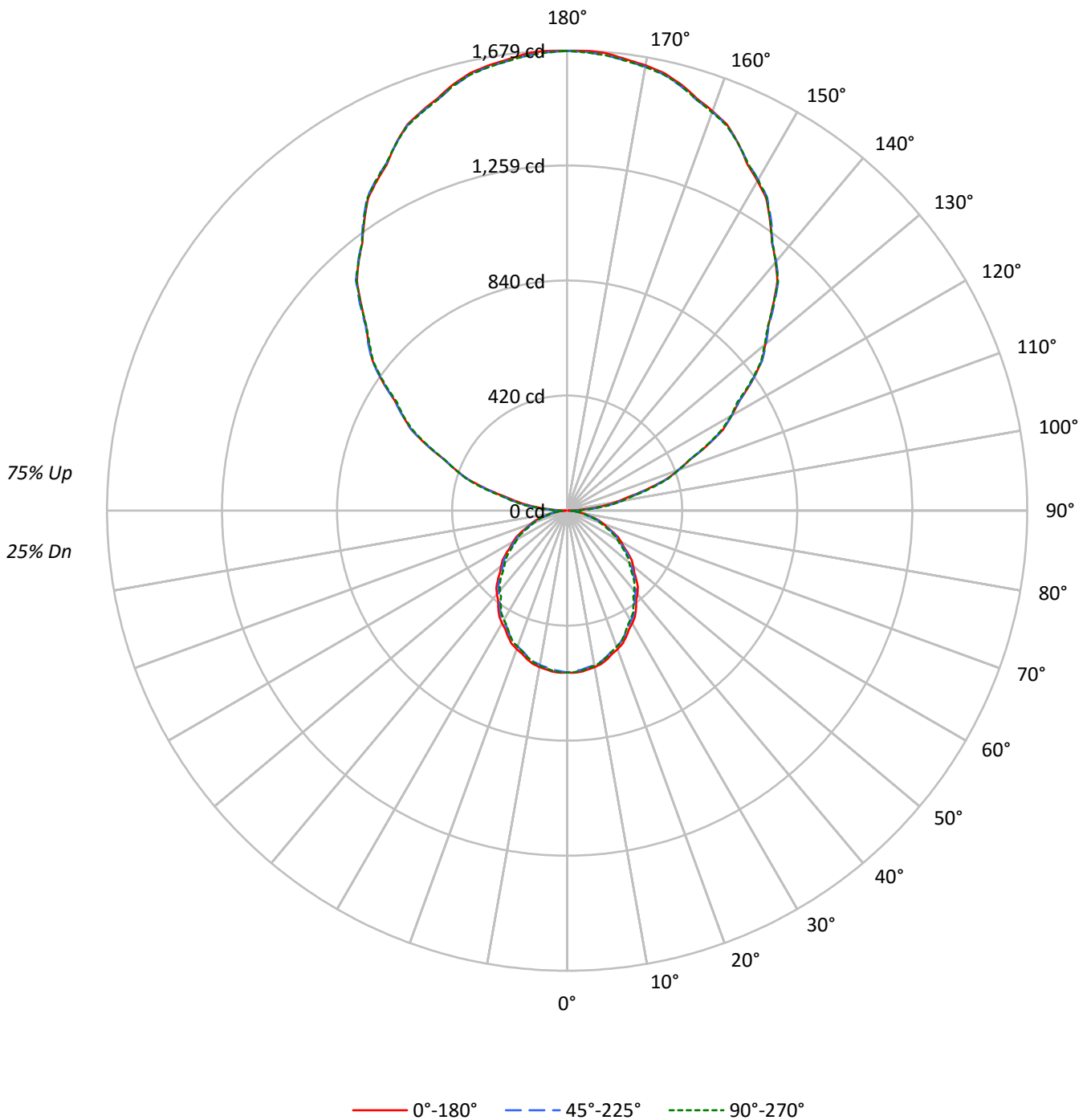
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	101	101	101	90	90	90	90	69	69	69	50	50	50	33	33	33	25
1	92	88	84	81	82	78	75	72	60	58	57	44	43	42	29	28	28	21
2	84	77	71	66	74	68	63	59	53	50	47	39	37	35	25	24	23	17
3	76	67	60	55	68	60	54	49	47	43	39	34	31	29	22	21	20	15
4	70	59	52	46	62	53	47	42	41	37	33	30	27	25	20	18	17	13
5	64	53	45	39	57	47	41	36	37	32	29	27	24	22	18	16	15	11
6	59	47	39	34	52	42	36	31	33	28	25	24	21	19	16	14	13	10
7	54	42	35	29	48	38	32	27	30	25	22	22	19	16	15	13	11	9
8	50	38	31	26	45	34	28	24	27	22	19	20	17	15	14	12	10	8
9	47	35	28	23	41	31	25	21	25	20	17	18	15	13	13	11	9	7
10	43	32	25	20	39	29	23	19	23	18	15	17	14	12	12	10	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4769	4769	4769
5°	4783	4725	4760
10°	4753	4687	4710
15°	4695	4621	4633
20°	4619	4538	4542
25°	4532	4444	4431
30°	4426	4333	4294
35°	4315	4217	4161
40°	4200	4086	4011
45°	4080	3956	3881
50°	3947	3841	3721
55°	3804	3690	3571
60°	3660	3523	3416
65°	3500	3364	3228
70°	3319	3151	3028
75°	3041	2895	2820
80°	2706	2599	2529
85°	2371	2279	2232



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	55.6	0.9
10°-20°	156.7	2.5
20°-30°	230.7	3.7
30°-40°	268.2	4.3
40°-50°	268.2	4.3
50°-60°	234.6	3.8
60°-70°	174.2	2.8
70°-80°	99.0	1.6
80°-90°	33.6	0.5
90°-100°	110.6	1.8
100°-110°	327.6	5.3
110°-120°	556.1	9.0
120°-130°	733.3	11.9
130°-140°	823.5	13.3
140°-150°	809.2	13.1
150°-160°	680.6	11.0
160°-170°	452.8	7.3
170°-180°	158.6	2.6
0°-30°	443.1	7.2
0°-40°	711.3	11.5
0°-60°	1214.1	19.7
0°-90°	1520.9	24.6
90°-120°	994.3	16.1
90°-150°	3360.3	54.4
90°-180°	4652.0	75.4
0°-180°	6173.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	591	591	591	591	591	
5°	590	588	583	588	587	56
15°	562	560	553	555	554	158
25°	509	505	499	499	498	234
35°	438	434	428	425	422	274
45°	357	354	346	342	340	275
55°	270	269	262	257	254	242
65°	183	181	176	172	169	181
75°	98	95	93	91	90	104
85°	26	26	25	25	24	28
90°	4	18	28	36	39	6
95°	78	89	99	102	102	87
105°	302	304	309	313	316	321
115°	565	565	563	562	560	557
125°	824	823	822	820	817	734
135°	1062	1070	1070	1067	1063	821
145°	1290	1295	1297	1295	1292	807
155°	1478	1478	1477	1482	1477	680
165°	1609	1606	1603	1610	1606	453
175°	1674	1668	1666	1675	1666	159
180°	1677	1677	1677	1677	1677	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7
2.5°	592.2	592.0	591.7	591.5	591.2	590.6	589.7	588.8	587.9	586.9	587.8
5°	590.2	589.8	589.4	589.0	588.6	587.8	586.6	585.5	584.3	583.1	584.3
7.5°	584.8	584.3	583.9	583.5	583.1	582.2	580.9	579.7	578.4	577.1	578.0
10°	579.8	579.4	579.0	578.6	578.2	577.3	575.9	574.5	573.2	571.8	572.6
12.5°	573.4	573.0	572.6	572.1	571.7	570.8	569.3	567.9	566.4	565.0	565.9
15°	561.8	561.4	561.0	560.6	560.2	559.2	557.6	556.0	554.4	552.9	553.5
17.5°	547.9	547.4	546.9	546.4	545.8	544.8	543.3	541.8	540.3	538.8	539.2
20°	537.7	537.2	536.7	536.1	535.6	534.6	533.0	531.4	529.8	528.2	528.6
22.5°	526.7	526.0	525.3	524.6	523.9	522.8	521.2	519.7	518.1	516.5	517.1
25°	508.8	508.1	507.4	506.6	505.9	504.8	503.3	501.8	500.4	498.9	499.0
27.5°	488.4	487.6	486.9	486.1	485.4	484.3	482.9	481.6	480.2	478.8	478.6
30°	474.8	473.9	473.1	472.2	471.4	470.3	468.9	467.5	466.2	464.8	464.4
32.5°	460.4	459.6	458.8	458.1	457.3	456.2	454.8	453.3	451.9	450.4	449.9
35°	437.8	437.1	436.4	435.6	434.9	433.8	432.3	430.8	429.4	427.9	427.2
37.5°	414.1	413.4	412.7	412.1	411.4	410.3	408.7	407.1	405.5	403.9	403.1
40°	398.5	397.7	396.9	396.0	395.2	394.0	392.4	390.8	389.2	387.7	386.6
42.5°	381.9	381.4	380.9	380.4	379.9	378.7	377.0	375.2	373.5	371.8	370.5
45°	357.4	356.6	355.9	355.2	354.4	353.2	351.5	349.8	348.2	346.5	345.3
47.5°	331.7	331.2	330.7	330.2	329.7	328.7	327.1	325.5	324.0	322.4	321.1
50°	314.3	313.9	313.5	313.0	312.6	311.7	310.2	308.7	307.2	305.8	304.3
52.5°	297.3	296.7	296.2	295.7	295.2	294.2	292.6	291.1	289.5	288.0	286.7
55°	270.3	270.0	269.6	269.3	269.0	268.1	266.6	265.2	263.7	262.2	261.0
57.5°	244.5	244.2	243.8	243.5	243.1	242.2	240.7	239.3	237.8	236.4	235.2
60°	226.7	226.2	225.7	225.1	224.6	223.7	222.3	220.9	219.6	218.2	217.3
62.5°	209.3	208.9	208.4	208.0	207.5	206.6	205.1	203.7	202.2	200.8	199.9
65°	183.2	182.7	182.1	181.6	181.1	180.3	179.2	178.2	177.1	176.1	175.0
67.5°	156.9	156.4	155.9	155.4	154.9	154.2	153.2	152.2	151.2	150.1	149.1
70°	140.6	139.8	139.1	138.4	137.6	136.8	136.0	135.2	134.3	133.5	132.6
72.5°	123.2	122.4	121.7	121.0	120.2	119.5	118.8	118.2	117.5	116.8	116.1
75°	97.5	97.0	96.5	95.9	95.4	94.9	94.4	93.8	93.3	92.8	92.4
77.5°	73.0	72.8	72.5	72.3	72.1	71.7	71.3	70.8	70.3	69.9	69.7
80°	58.2	57.9	57.6	57.3	57.0	56.7	56.5	56.3	56.1	55.9	55.6
82.5°	43.8	43.7	43.5	43.4	43.2	43.1	43.1	43.1	43.0	43.0	42.9
85°	25.6	25.6	25.6	25.6	25.6	25.5	25.2	25.0	24.8	24.6	24.6
87.5°	10.6	11.2	11.7	12.3	12.8	13.3	13.7	14.0	14.4	14.8	15.1
90°	3.9	7.1	10.2	13.4	16.6	19.3	21.6	23.9	26.2	28.5	30.3
92.5°	27.8	31.4	35.0	38.6	42.3	44.9	46.5	48.1	49.7	51.4	52.4
95°	77.8	80.4	83.0	85.6	88.2	90.5	92.5	94.5	96.5	98.6	99.4
97.5°	135.9	138.0	140.1	142.1	144.2	146.4	148.8	151.2	153.5	155.9	156.9
100°	181.6	182.7	183.9	185.0	186.2	188.0	190.6	193.2	195.8	198.4	199.0
102.5°	229.3	229.8	230.2	230.7	231.1	232.5	234.9	237.3	239.6	242.0	242.8
105°	302.2	302.5	302.8	303.0	303.3	304.0	305.2	306.4	307.5	308.7	309.5
107.5°	378.7	379.0	379.4	379.7	380.1	380.3	380.5	380.7	380.9	381.0	381.8
110°	430.6	431.1	431.7	432.3	432.9	433.0	432.7	432.4	432.2	431.9	431.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	484.5	484.6	484.7	484.9	485.0	484.8	484.3	483.7	483.2	482.7	482.6
115°	565.4	565.4	565.4	565.4	565.4	565.2	564.6	564.0	563.4	562.8	562.6
117.5°	641.7	641.9	642.2	642.4	642.6	642.5	642.1	641.7	641.3	640.9	639.9
120°	692.5	693.7	694.8	696.0	697.1	697.3	696.4	695.6	694.7	693.8	692.4
122.5°	745.4	745.9	746.4	746.8	747.3	747.3	746.9	746.5	746.1	745.7	744.7
125°	823.5	823.5	823.5	823.5	823.5	823.4	823.1	822.8	822.5	822.2	821.6
127.5°	894.3	895.2	896.1	896.9	897.8	898.0	897.5	897.1	896.6	896.1	895.6
130°	944.1	945.0	945.9	946.7	947.6	948.0	948.0	948.0	948.0	948.0	947.4
132.5°	995.0	995.6	996.2	996.9	997.5	997.7	997.5	997.2	997.0	996.8	996.2
135°	1062.1	1063.9	1065.6	1067.3	1069.1	1069.9	1069.9	1069.9	1069.9	1069.9	1069.4
137.5°	1135.3	1136.1	1136.9	1137.7	1138.5	1139.2	1139.6	1140.1	1140.5	1141.0	1140.2
140°	1184.1	1184.6	1185.2	1185.8	1186.4	1186.6	1186.6	1186.6	1186.6	1186.6	1186.4
142.5°	1228.7	1229.2	1229.8	1230.4	1231.0	1231.1	1230.9	1230.7	1230.5	1230.2	1230.2
145°	1290.4	1291.6	1292.7	1293.9	1295.0	1295.7	1296.0	1296.3	1296.6	1296.9	1296.6
147.5°	1351.6	1353.0	1354.4	1355.8	1357.1	1357.7	1357.5	1357.3	1357.0	1356.8	1356.6
150°	1389.0	1390.1	1391.3	1392.4	1393.6	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1
152.5°	1424.2	1424.9	1425.6	1426.3	1427.0	1427.5	1427.7	1427.9	1428.2	1428.4	1429.1
155°	1478.4	1478.4	1478.4	1478.4	1478.4	1478.3	1478.0	1477.7	1477.4	1477.2	1478.3
157.5°	1524.1	1523.6	1523.1	1522.5	1522.0	1521.7	1521.7	1521.6	1521.6	1521.5	1522.4
160°	1551.1	1550.8	1550.5	1550.2	1549.9	1549.6	1549.3	1549.1	1548.8	1548.5	1549.3
162.5°	1576.0	1575.2	1574.5	1573.7	1573.0	1572.5	1572.2	1571.9	1571.6	1571.3	1572.9
165°	1609.4	1608.6	1607.7	1606.8	1606.0	1605.3	1604.7	1604.1	1603.5	1602.9	1604.7
167.5°	1635.1	1633.9	1632.7	1631.5	1630.3	1629.7	1629.8	1629.8	1629.9	1629.9	1631.7
170°	1649.6	1648.2	1646.8	1645.3	1643.9	1643.3	1643.6	1643.9	1644.2	1644.4	1646.2
172.5°	1660.0	1658.8	1657.6	1656.4	1655.2	1654.6	1654.7	1654.7	1654.8	1654.8	1656.8
175°	1674.3	1672.8	1671.4	1670.0	1668.5	1667.6	1667.4	1667.1	1666.8	1666.5	1668.5
177.5°	1678.9	1677.8	1676.6	1675.5	1674.3	1673.8	1673.8	1673.8	1673.8	1673.8	1675.4
180°	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7
2.5°	588.6	589.5	590.3	590.7	590.6	590.5	590.4	590.3
5°	585.5	586.6	587.8	588.2	588.0	587.8	587.6	587.4
7.5°	578.9	579.9	580.8	581.2	581.1	580.9	580.8	580.7
10°	573.5	574.3	575.2	575.5	575.3	575.0	574.8	574.6
12.5°	566.8	567.7	568.7	569.0	568.7	568.4	568.1	567.8
15°	554.1	554.7	555.4	555.5	555.2	554.9	554.6	554.3
17.5°	539.6	540.0	540.4	540.5	540.3	540.1	539.9	539.7
20°	528.9	529.2	529.5	529.6	529.3	529.1	528.9	528.7
22.5°	517.6	518.2	518.8	518.9	518.5	518.1	517.7	517.4
25°	499.1	499.2	499.3	499.2	498.7	498.3	497.9	497.5
27.5°	478.3	478.1	477.8	477.4	476.9	476.4	475.8	475.3
30°	464.0	463.6	463.1	462.7	462.1	461.6	461.1	460.6
32.5°	449.4	448.9	448.4	447.9	447.4	446.8	446.3	445.8
35°	426.4	425.7	424.9	424.3	423.8	423.3	422.7	422.2
37.5°	402.3	401.5	400.7	400.0	399.3	398.6	397.9	397.2
40°	385.6	384.5	383.5	382.7	382.1	381.6	381.1	380.6
42.5°	369.3	368.1	366.9	366.1	365.7	365.4	365.0	364.7
45°	344.2	343.0	341.9	341.1	340.8	340.5	340.2	339.9
47.5°	319.8	318.5	317.2	316.2	315.4	314.6	313.8	313.0
50°	302.8	301.4	299.9	298.8	298.2	297.6	296.9	296.3
52.5°	285.4	284.1	282.8	281.7	280.9	280.1	279.3	278.5
55°	259.7	258.4	257.2	256.2	255.6	255.0	254.3	253.7
57.5°	234.0	232.8	231.6	230.7	230.1	229.5	228.9	228.2
60°	216.3	215.4	214.4	213.7	213.2	212.6	212.1	211.6
62.5°	199.1	198.2	197.3	196.6	196.1	195.6	195.1	194.5
65°	174.0	172.9	171.9	171.1	170.6	170.0	169.5	169.0
67.5°	148.1	147.1	146.1	145.5	145.4	145.2	145.1	144.9
70°	131.8	131.0	130.1	129.5	129.2	128.9	128.6	128.3
72.5°	115.5	114.8	114.1	113.6	113.3	113.0	112.7	112.4
75°	91.9	91.5	91.1	90.8	90.7	90.6	90.5	90.4
77.5°	69.6	69.5	69.4	69.2	68.9	68.6	68.3	68.1
80°	55.4	55.2	55.0	54.9	54.7	54.6	54.5	54.4
82.5°	42.7	42.6	42.5	42.4	42.3	42.1	42.0	41.9
85°	24.6	24.6	24.6	24.6	24.5	24.4	24.2	24.1
87.5°	15.5	15.8	16.2	16.4	16.5	16.6	16.8	16.9
90°	32.0	33.7	35.4	36.6	37.2	37.8	38.3	38.9
92.5°	53.4	54.5	55.5	56.2	56.5	56.9	57.2	57.6
95°	100.3	101.2	102.0	102.5	102.5	102.5	102.5	102.5
97.5°	158.0	159.0	160.0	160.6	160.6	160.6	160.6	160.6
100°	199.6	200.2	200.7	201.0	201.0	201.0	201.0	201.0
102.5°	243.6	244.4	245.2	245.7	246.0	246.2	246.4	246.7
105°	310.4	311.3	312.1	313.0	313.8	314.7	315.6	316.4
107.5°	382.6	383.4	384.3	384.6	384.6	384.5	384.5	384.4
110°	430.7	430.1	429.6	429.7	430.6	431.4	432.3	433.2



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CATALOG NUMBER: S124DIW-S350D1340U835-4F0-1E-UDD-F1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	482.5	482.4	482.2	482.3	482.4	482.6	482.8	483.0
115°	562.3	562.0	561.7	561.4	561.1	560.8	560.5	560.3
117.5°	639.0	638.0	637.0	636.2	635.6	635.1	634.5	633.9
120°	691.0	689.5	688.1	687.6	688.2	688.8	689.4	689.9
122.5°	743.7	742.8	741.8	740.8	739.7	738.7	737.7	736.6
125°	821.1	820.5	819.9	819.3	818.8	818.2	817.6	817.0
127.5°	895.0	894.4	893.8	893.3	892.9	892.4	891.9	891.5
130°	946.9	946.3	945.7	944.9	943.7	942.5	941.4	940.2
132.5°	995.6	995.1	994.5	994.0	993.5	993.0	992.6	992.1
135°	1068.8	1068.2	1067.6	1066.9	1066.0	1065.2	1064.3	1063.4
137.5°	1139.5	1138.8	1138.0	1137.7	1137.9	1138.1	1138.2	1138.4
140°	1186.1	1185.8	1185.5	1185.2	1184.9	1184.6	1184.3	1184.1
142.5°	1230.1	1230.1	1230.0	1229.9	1229.9	1229.8	1229.8	1229.7
145°	1296.3	1296.0	1295.7	1295.2	1294.3	1293.4	1292.6	1291.7
147.5°	1356.3	1356.1	1355.9	1355.6	1355.3	1355.0	1354.8	1354.5
150°	1394.1	1394.1	1394.1	1394.0	1393.7	1393.4	1393.1	1392.9
152.5°	1429.8	1430.5	1431.2	1431.1	1430.4	1429.6	1428.9	1428.1
155°	1479.5	1480.6	1481.8	1481.8	1480.6	1479.5	1478.3	1477.2
157.5°	1523.2	1524.1	1525.0	1524.9	1523.9	1522.9	1522.0	1521.0
160°	1550.2	1551.1	1551.9	1551.6	1550.2	1548.8	1547.3	1545.9
162.5°	1574.4	1576.0	1577.5	1577.6	1576.1	1574.7	1573.3	1571.8
165°	1606.4	1608.1	1609.9	1610.2	1609.0	1607.8	1606.7	1605.5
167.5°	1633.4	1635.1	1636.8	1636.8	1635.0	1633.2	1631.5	1629.7
170°	1647.9	1649.6	1651.4	1651.2	1649.2	1647.2	1645.2	1643.2
172.5°	1658.7	1660.7	1662.7	1662.6	1660.6	1658.6	1656.6	1654.6
175°	1670.5	1672.5	1674.6	1674.6	1672.5	1670.5	1668.5	1666.5
177.5°	1677.0	1678.6	1680.2	1680.1	1678.3	1676.4	1674.6	1672.7
180°	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9	1676.9

(END OF REPORT)