

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: P332523-930

Luminaire Tested: **S124DIP-S350D1035U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332523-930
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: S124DIP-S350D1035U930-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1035 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4605.1 lumens
Efficiency: N/A
Efficacy: 123.5 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

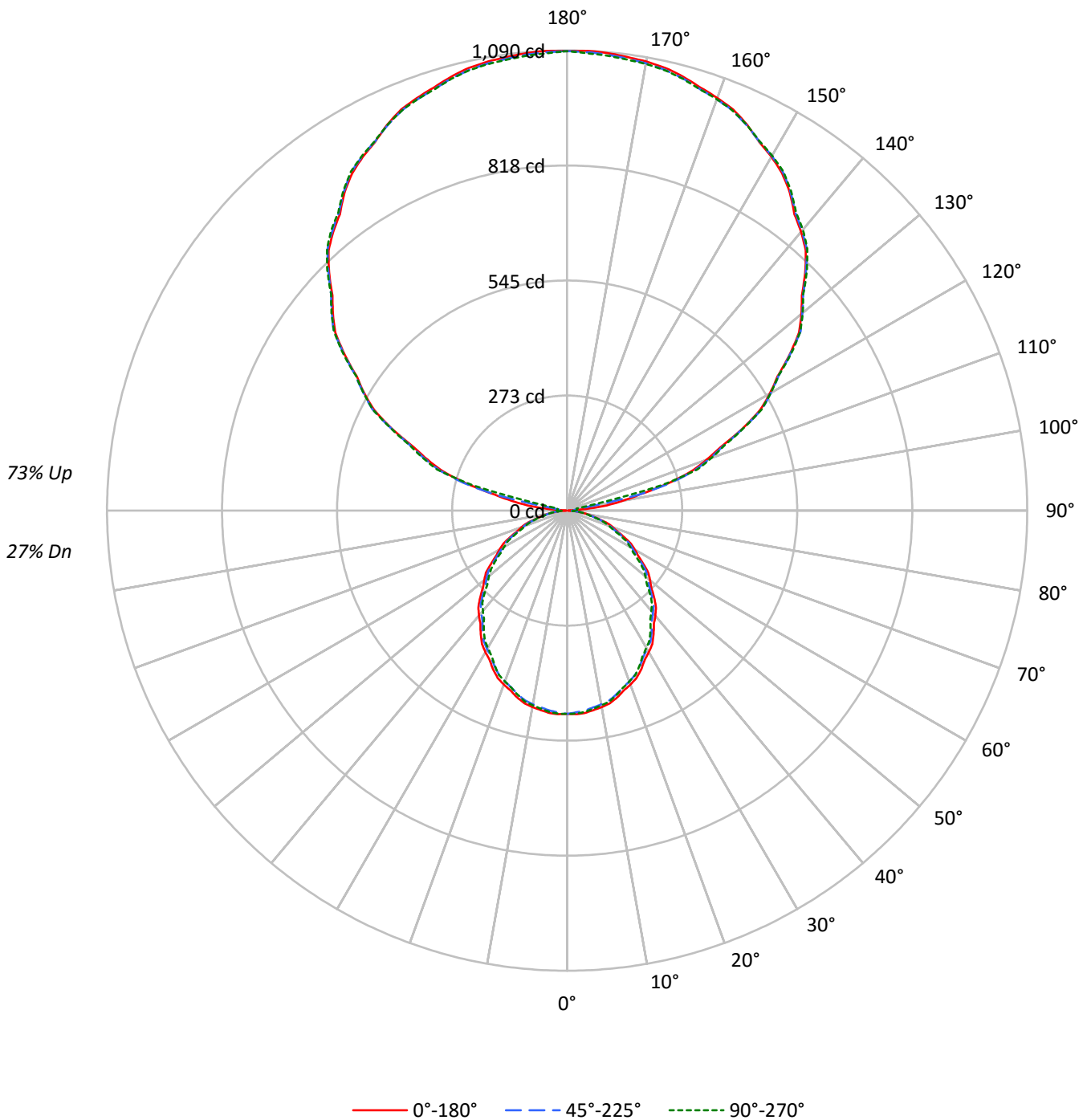
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	102	102	102	102	91	91	91	91	71	71	71	52	52	52	35	35	35	27
1	93	88	85	81	83	79	76	73	62	59	58	46	44	43	31	30	29	23
2	84	77	71	66	75	69	64	60	54	51	48	40	38	36	27	26	25	19
3	77	68	61	55	68	61	55	50	47	43	40	35	33	30	24	22	21	16
4	70	60	52	46	62	54	47	42	42	38	34	31	28	26	21	20	18	14
5	64	53	45	40	57	48	41	36	38	33	29	28	25	22	19	17	16	12
6	59	47	40	34	53	43	36	31	34	29	25	25	22	19	17	15	14	10
7	55	43	35	30	49	38	32	27	30	26	22	23	20	17	16	14	12	9
8	50	39	31	26	45	35	28	24	28	23	19	21	18	15	15	12	11	8
9	47	35	28	23	42	32	25	21	25	21	17	19	16	14	13	11	10	7
10	44	32	25	21	39	29	23	19	23	19	15	18	14	12	12	10	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3888	3888	3888
5°	3900	3853	3881
10°	3875	3822	3841
15°	3828	3768	3777
20°	3766	3699	3703
25°	3695	3624	3613
30°	3608	3533	3500
35°	3517	3438	3392
40°	3424	3331	3270
45°	3327	3225	3164
50°	3218	3131	3034
55°	3102	3009	2911
60°	2984	2872	2785
65°	2854	2743	2632
70°	2705	2568	2469
75°	2480	2361	2299
80°	2208	2120	2064
85°	1936	1862	1815



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.4	1.0
10°-20°	127.8	2.8
20°-30°	188.1	4.1
30°-40°	218.7	4.7
40°-50°	218.7	4.7
50°-60°	191.3	4.2
60°-70°	142.1	3.1
70°-80°	80.7	1.8
80°-90°	26.4	0.6
90°-100°	37.2	0.8
100°-110°	237.3	5.2
110°-120°	453.9	9.9
120°-130°	576.3	12.5
130°-140°	616.6	13.4
140°-150°	576.6	12.5
150°-160°	464.9	10.1
160°-170°	299.9	6.5
170°-180°	103.4	2.2
0°-30°	361.2	7.8
0°-40°	579.9	12.6
0°-60°	989.8	21.5
0°-90°	1239.0	26.9
90°-120°	728.5	15.8
90°-150°	2497.9	54.2
90°-180°	3366.0	73.1
0°-180°	4605.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	482	482	482	482	482	
5°	481	480	475	479	479	46
15°	458	456	451	453	452	129
25°	415	412	407	407	406	191
35°	357	354	349	346	344	223
45°	291	288	282	278	277	225
55°	220	219	214	209	207	197
65°	149	147	144	140	138	148
75°	80	78	76	74	74	84
85°	21	21	20	20	20	23
90°	2	11	18	23	24	3
95°	45	19	18	23	24	58
105°	245	250	254	259	232	256
115°	457	460	459	461	461	450
125°	643	646	645	647	648	574
135°	798	797	800	802	803	614
145°	920	922	922	923	924	574
155°	1008	1009	1007	1010	1008	465
165°	1064	1060	1060	1065	1059	300
175°	1088	1084	1084	1090	1082	104
180°	1088	1088	1088	1088	1088	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6
2.5°	482.8	482.7	482.4	482.2	482.0	481.5	480.8	480.0	479.3	478.5	479.2
5°	481.2	480.9	480.5	480.2	479.9	479.2	478.3	477.4	476.4	475.4	476.4
7.5°	476.8	476.4	476.1	475.7	475.4	474.7	473.6	472.6	471.6	470.5	471.2
10°	472.7	472.4	472.1	471.7	471.4	470.7	469.5	468.4	467.3	466.2	466.8
12.5°	467.5	467.2	466.8	466.4	466.1	465.4	464.1	463.0	461.8	460.6	461.4
15°	458.0	457.7	457.4	457.1	456.7	455.9	454.6	453.3	452.0	450.8	451.3
17.5°	446.7	446.3	445.9	445.5	445.0	444.2	443.0	441.7	440.5	439.3	439.6
20°	438.4	438.0	437.6	437.1	436.7	435.9	434.6	433.3	431.9	430.6	431.0
22.5°	429.4	428.8	428.3	427.7	427.1	426.2	424.9	423.7	422.4	421.1	421.6
25°	414.8	414.3	413.7	413.0	412.5	411.6	410.3	409.1	408.0	406.8	406.8
27.5°	398.2	397.5	397.0	396.3	395.7	394.8	393.7	392.6	391.5	390.4	390.2
30°	387.1	386.4	385.7	385.0	384.3	383.4	382.3	381.2	380.1	379.0	378.6
32.5°	375.4	374.7	374.1	373.5	372.8	371.9	370.8	369.6	368.4	367.2	366.8
35°	356.9	356.4	355.8	355.1	354.6	353.7	352.5	351.2	350.1	348.9	348.3
37.5°	337.6	337.0	336.5	336.0	335.4	334.5	333.2	331.9	330.6	329.3	328.6
40°	324.9	324.2	323.6	322.9	322.2	321.2	319.9	318.6	317.3	316.1	315.2
42.5°	311.4	311.0	310.5	310.1	309.7	308.8	307.4	305.9	304.5	303.1	302.1
45°	291.4	290.7	290.2	289.6	288.9	288.0	286.6	285.2	283.9	282.5	281.5
47.5°	270.4	270.0	269.6	269.2	268.8	268.0	266.7	265.4	264.2	262.9	261.8
50°	256.2	255.9	255.6	255.2	254.9	254.1	252.9	251.7	250.5	249.3	248.1
52.5°	242.4	241.9	241.5	241.1	240.7	239.9	238.6	237.3	236.0	234.8	233.7
55°	220.4	220.1	219.8	219.6	219.3	218.6	217.4	216.2	215.0	213.8	212.8
57.5°	199.3	199.1	198.8	198.5	198.2	197.5	196.2	195.1	193.9	192.7	191.8
60°	184.8	184.4	184.0	183.5	183.1	182.4	181.2	180.1	179.0	177.9	177.2
62.5°	170.6	170.3	169.9	169.6	169.2	168.4	167.2	166.1	164.9	163.7	163.0
65°	149.4	149.0	148.5	148.1	147.7	147.0	146.1	145.3	144.4	143.6	142.7
67.5°	127.9	127.5	127.1	126.7	126.3	125.7	124.9	124.1	123.3	122.4	121.6
70°	114.6	114.0	113.4	112.8	112.2	111.5	110.9	110.2	109.5	108.8	108.1
72.5°	100.4	99.8	99.2	98.7	98.0	97.4	96.9	96.4	95.8	95.2	94.7
75°	79.5	79.1	78.7	78.2	77.8	77.4	77.0	76.5	76.1	75.7	75.3
77.5°	59.5	59.4	59.1	58.9	58.8	58.5	58.1	57.7	57.3	57.0	56.8
80°	47.5	47.2	47.0	46.7	46.5	46.2	46.1	45.9	45.7	45.6	45.3
82.5°	35.7	35.6	35.5	35.4	35.2	35.1	35.1	35.1	35.1	35.1	35.0
85°	20.9	20.9	20.9	20.9	20.9	20.8	20.5	20.4	20.2	20.1	20.1
87.5°	8.5	8.8	9.2	9.5	9.9	10.1	10.4	10.5	10.8	11.0	11.2
90°	2.4	4.4	6.4	8.4	10.4	12.1	13.5	15.0	16.5	17.9	19.0
92.5°	10.3	10.4	10.4	10.6	10.7	11.5	12.9	14.3	15.8	17.3	18.3
95°	44.8	38.6	32.4	26.3	20.1	17.2	17.4	17.5	17.7	17.9	19.0
97.5°	95.1	98.9	102.7	106.6	110.4	102.2	82.0	61.9	41.7	21.5	21.6
100°	133.5	136.7	140.0	143.2	146.5	135.7	110.7	85.8	60.7	35.8	32.8
102.5°	176.4	178.9	181.2	183.6	186.0	185.6	182.3	179.0	175.8	172.5	139.3
105°	245.0	246.1	247.1	248.3	249.3	250.3	251.2	252.1	253.1	254.0	255.6
107.5°	308.6	309.2	309.7	310.2	310.8	311.7	312.9	314.1	315.4	316.6	317.4
110°	351.6	352.1	352.7	353.2	353.8	354.6	355.6	356.8	357.8	358.9	359.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	393.3	394.3	395.3	396.2	397.2	397.9	398.4	398.9	399.4	399.9	399.9
115°	457.4	458.0	458.5	459.0	459.6	459.7	459.6	459.4	459.2	459.0	459.4
117.5°	515.2	515.9	516.7	517.4	518.1	518.6	519.0	519.4	519.8	520.2	520.2
120°	554.2	555.0	555.7	556.4	557.2	557.4	557.3	557.1	556.8	556.7	557.1
122.5°	590.7	591.2	591.6	592.0	592.5	592.8	593.0	593.3	593.5	593.8	594.0
125°	642.9	643.7	644.4	645.1	645.9	646.0	645.7	645.3	645.0	644.6	645.1
127.5°	692.4	692.6	692.8	693.0	693.2	693.7	694.6	695.4	696.2	697.0	696.9
130°	724.4	724.6	724.7	724.9	725.0	725.5	726.0	726.5	727.1	727.7	727.8
132.5°	753.7	754.0	754.3	754.6	755.0	755.5	756.2	756.8	757.5	758.2	758.4
135°	797.6	797.4	797.3	797.0	796.9	797.1	797.9	798.6	799.3	800.1	800.4
137.5°	836.5	836.6	836.7	836.7	836.8	837.2	838.0	838.9	839.6	840.4	840.8
140°	861.9	862.3	862.7	863.0	863.3	863.7	864.1	864.5	864.8	865.2	865.7
142.5°	884.7	885.3	886.0	886.6	887.3	887.7	887.9	888.2	888.4	888.6	889.0
145°	919.7	920.2	920.8	921.3	921.9	922.1	922.1	922.1	922.1	922.1	922.3
147.5°	947.5	948.5	949.6	950.6	951.6	952.0	951.8	951.6	951.5	951.3	951.5
150°	967.7	968.4	969.1	969.9	970.6	970.9	970.7	970.5	970.4	970.1	970.1
152.5°	984.6	985.2	985.8	986.3	986.9	987.1	986.8	986.4	986.1	985.8	986.1
155°	1008.4	1008.6	1008.8	1008.9	1009.1	1008.9	1008.4	1007.9	1007.3	1006.8	1007.5
157.5°	1028.4	1028.3	1028.2	1028.1	1028.0	1027.6	1027.0	1026.4	1025.8	1025.2	1026.1
160°	1040.2	1039.6	1039.1	1038.5	1038.0	1037.6	1037.5	1037.2	1037.1	1036.9	1038.0
162.5°	1050.6	1049.9	1049.2	1048.5	1047.8	1047.4	1047.2	1047.0	1046.8	1046.7	1047.7
165°	1063.7	1062.8	1061.9	1061.0	1060.1	1059.6	1059.6	1059.6	1059.6	1059.6	1061.1
167.5°	1074.2	1073.3	1072.3	1071.4	1070.4	1069.9	1069.8	1069.7	1069.6	1069.4	1071.1
170°	1080.0	1079.0	1077.8	1076.8	1075.7	1075.2	1075.4	1075.6	1075.8	1076.0	1077.4
172.5°	1083.9	1082.9	1081.7	1080.7	1079.6	1079.1	1079.3	1079.5	1079.7	1079.9	1081.3
175°	1088.2	1087.1	1086.0	1084.9	1083.9	1083.4	1083.5	1083.8	1083.9	1084.1	1085.7
177.5°	1090.1	1089.1	1088.1	1087.1	1086.1	1085.7	1086.0	1086.3	1086.5	1086.9	1088.0
180°	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	481.6	481.6	481.6	481.6	481.6	481.6	481.6	481.6
2.5°	479.9	480.6	481.3	481.6	481.5	481.4	481.4	481.3
5°	477.4	478.3	479.2	479.6	479.4	479.2	479.1	478.9
7.5°	472.0	472.8	473.5	473.9	473.8	473.6	473.5	473.4
10°	467.6	468.2	469.0	469.2	469.0	468.8	468.6	468.5
12.5°	462.1	462.8	463.7	463.9	463.7	463.4	463.2	462.9
15°	451.8	452.2	452.8	452.9	452.7	452.4	452.2	451.9
17.5°	439.9	440.3	440.6	440.7	440.5	440.3	440.2	440.0
20°	431.2	431.5	431.7	431.8	431.5	431.4	431.2	431.0
22.5°	422.0	422.5	423.0	423.1	422.7	422.4	422.1	421.8
25°	406.9	407.0	407.1	407.0	406.6	406.3	405.9	405.6
27.5°	390.0	389.8	389.6	389.2	388.8	388.4	387.9	387.5
30°	378.3	378.0	377.6	377.2	376.7	376.3	375.9	375.5
32.5°	366.4	366.0	365.6	365.2	364.8	364.3	363.9	363.5
35°	347.6	347.1	346.4	345.9	345.5	345.1	344.6	344.2
37.5°	328.0	327.3	326.7	326.1	325.5	325.0	324.4	323.8
40°	314.4	313.5	312.7	312.0	311.5	311.1	310.7	310.3
42.5°	301.1	300.1	299.1	298.5	298.2	297.9	297.6	297.3
45°	280.6	279.6	278.8	278.1	277.9	277.6	277.4	277.1
47.5°	260.7	259.7	258.6	257.8	257.1	256.5	255.8	255.2
50°	246.9	245.7	244.5	243.6	243.1	242.6	242.1	241.6
52.5°	232.7	231.6	230.6	229.7	229.0	228.4	227.7	227.1
55°	211.7	210.7	209.7	208.9	208.4	207.9	207.3	206.8
57.5°	190.8	189.8	188.8	188.1	187.6	187.1	186.6	186.1
60°	176.3	175.6	174.8	174.2	173.8	173.3	172.9	172.5
62.5°	162.3	161.6	160.9	160.3	159.9	159.5	159.1	158.6
65°	141.9	141.0	140.1	139.5	139.1	138.6	138.2	137.8
67.5°	120.7	119.9	119.1	118.6	118.5	118.4	118.3	118.1
70°	107.5	106.8	106.1	105.6	105.3	105.1	104.8	104.6
72.5°	94.2	93.6	93.0	92.6	92.4	92.1	91.9	91.6
75°	74.9	74.6	74.3	74.0	73.9	73.9	73.8	73.7
77.5°	56.7	56.7	56.6	56.4	56.2	55.9	55.7	55.5
80°	45.2	45.0	44.8	44.8	44.6	44.5	44.4	44.4
82.5°	34.8	34.7	34.7	34.6	34.5	34.3	34.2	34.2
85°	20.1	20.1	20.1	20.1	20.0	19.9	19.7	19.6
87.5°	11.4	11.7	11.8	12.0	12.1	12.1	12.2	12.3
90°	20.1	21.2	22.3	23.0	23.3	23.7	24.1	24.4
92.5°	19.4	20.5	21.6	22.2	22.3	22.3	22.4	22.5
95°	20.1	21.2	22.3	22.9	23.1	23.2	23.4	23.6
97.5°	21.7	21.9	21.9	22.1	22.3	22.4	22.6	22.8
100°	29.7	26.6	23.5	22.1	22.3	22.4	22.6	22.8
102.5°	106.2	73.1	39.9	23.3	23.3	23.4	23.4	23.5
105°	257.2	258.8	260.4	258.0	251.5	245.0	238.5	232.0
107.5°	318.2	319.0	319.8	320.5	321.2	321.9	322.6	323.3
110°	359.6	360.0	360.4	360.9	361.3	361.9	362.5	363.0



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CATALOG NUMBER: S124DIP-S350D1035U930-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	399.8	399.7	399.7	400.0	400.6	401.4	402.0	402.7
115°	459.7	460.2	460.5	460.6	460.6	460.6	460.6	460.6
117.5°	520.1	520.0	519.9	519.9	519.8	519.8	519.7	519.6
120°	557.4	557.7	558.2	558.2	557.7	557.4	557.1	556.7
122.5°	594.3	594.4	594.7	594.6	594.3	593.9	593.5	593.1
125°	645.7	646.2	646.8	647.1	647.3	647.5	647.7	647.8
127.5°	696.8	696.7	696.6	696.4	696.3	696.2	696.0	695.9
130°	728.0	728.1	728.3	728.5	728.5	728.5	728.5	728.5
132.5°	758.6	758.8	759.0	759.0	758.8	758.6	758.6	758.4
135°	800.8	801.1	801.5	801.8	802.3	802.6	802.9	803.3
137.5°	841.2	841.6	842.0	842.1	842.0	842.0	841.8	841.7
140°	866.3	866.8	867.3	867.7	867.9	868.0	868.2	868.5
142.5°	889.4	889.8	890.2	890.4	890.5	890.5	890.6	890.6
145°	922.5	922.7	922.8	923.2	923.5	923.8	924.2	924.5
147.5°	951.5	951.7	951.9	952.0	952.2	952.4	952.6	952.8
150°	970.1	970.1	970.1	970.2	970.5	970.6	970.8	970.9
152.5°	986.3	986.7	986.9	987.0	986.9	986.8	986.7	986.6
155°	1008.2	1008.9	1009.7	1009.7	1009.3	1008.7	1008.1	1007.6
157.5°	1027.0	1028.0	1028.9	1028.9	1028.0	1027.0	1026.1	1025.2
160°	1039.1	1040.2	1041.2	1041.2	1040.2	1039.1	1038.0	1036.9
162.5°	1048.8	1049.9	1051.0	1050.9	1049.7	1048.5	1047.3	1046.0
165°	1062.6	1064.0	1065.4	1065.4	1063.7	1062.1	1060.5	1058.8
167.5°	1072.6	1074.2	1075.8	1075.7	1073.9	1072.1	1070.2	1068.4
170°	1078.9	1080.3	1081.7	1081.6	1079.8	1078.0	1076.1	1074.3
172.5°	1082.8	1084.2	1085.7	1085.4	1083.5	1081.5	1079.5	1077.6
175°	1087.4	1089.0	1090.6	1090.3	1088.2	1086.0	1083.9	1081.7
177.5°	1089.2	1090.3	1091.5	1091.2	1089.5	1087.8	1086.0	1084.3
180°	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2

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