

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: P332522-940

Luminaire Tested: **S124DIP-S350D1035U940-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332522-940  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S350D1035U940-4F0-1E-UDD-D4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1035 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4582.8 lumens  
Efficiency: N/A  
Efficacy: 122.9 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

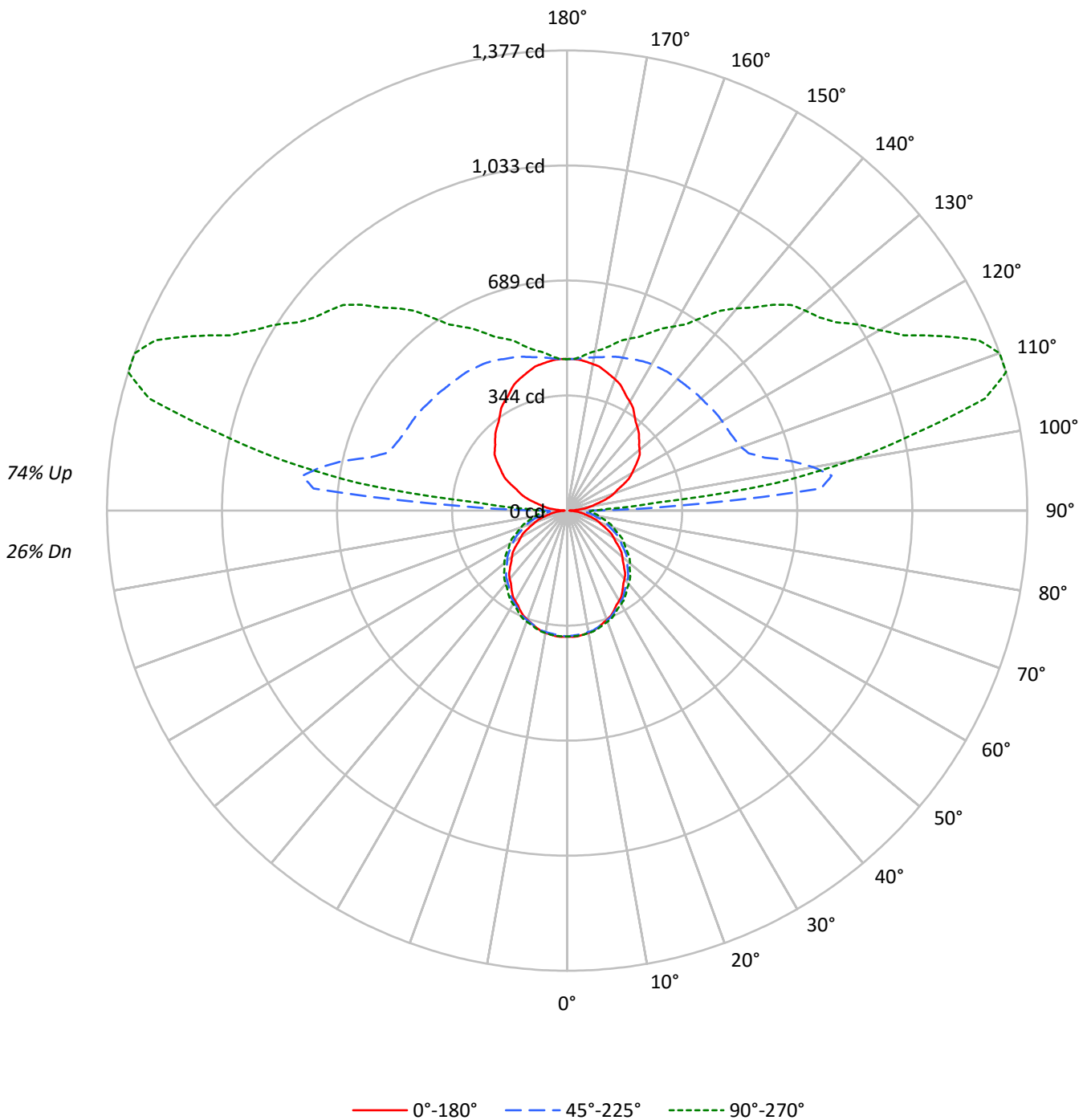
Input Watts (W): 37.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34
1	92	87	84	80	82	78	75	72	60	58	56	44	43	41	29	28	28
2	83	76	70	65	74	68	63	58	53	49	46	38	36	34	25	24	23
3	76	67	59	54	67	59	53	48	46	42	38	34	31	29	22	21	19
4	69	59	51	45	61	52	46	41	41	36	32	30	27	24	20	18	16
5	63	52	44	38	56	47	40	35	36	31	28	27	23	21	18	16	14
6	58	46	39	33	52	42	35	30	32	28	24	24	21	18	16	14	12
7	54	42	34	29	48	37	31	26	29	24	21	22	18	16	15	12	11
8	50	38	30	25	44	34	27	23	27	22	18	20	16	14	13	11	10
9	46	34	27	22	41	31	24	20	24	20	16	18	15	12	12	10	9
10	43	31	24	20	38	28	22	18	22	18	14	17	13	11	11	9	8

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	3043	3043	3043
5°	3053	2974	2982
10°	3033	2925	2923
15°	3006	2869	2854
20°	2965	2807	2785
25°	2919	2737	2710
30°	2869	2668	2634
35°	2812	2597	2566
40°	2768	2530	2497
45°	2700	2466	2436
50°	2643	2396	2373
55°	2585	2328	2298
60°	2493	2242	2231
65°	2392	2149	2146
70°	2271	2045	2049
75°	2101	1926	1961
80°	1913	1816	1875
85°	1676	1717	1825



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	35.7	0.8
10°-20°	102.3	2.2
20°-30°	154.6	3.4
30°-40°	187.1	4.1
40°-50°	197.8	4.3
50°-60°	186.2	4.1
60°-70°	154.4	3.4
70°-80°	108.5	2.4
80°-90°	63.8	1.4
90°-100°	363.7	7.9
100°-110°	708.1	15.5
110°-120°	628.2	13.7
120°-130°	523.4	11.4
130°-140°	432.3	9.4
140°-150°	327.8	7.2
150°-160°	229.8	5.0
160°-170°	135.2	2.9
170°-180°	44.0	1.0
0°-30°	292.6	6.4
0°-40°	479.7	10.5
0°-60°	863.6	18.8
0°-90°	1190.4	26.0
90°-120°	1700.0	37.1
90°-150°	2983.5	65.1
90°-180°	3392.0	74.0
0°-180°	4582.8	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	377	377	377	377	377	
5°	377	376	373	376	376	36
15°	362	362	361	364	364	102
25°	331	333	335	339	340	152
35°	290	295	299	304	306	181
45°	241	249	257	264	267	187
55°	189	198	211	219	222	168
65°	131	144	159	169	173	130
75°	73	88	106	117	122	77
85°	22	40	59	71	76	24
90°	8	31	58	71	76	6
95°	35	112	762	407	269	37
105°	108	164	612	1295	1294	115
115°	186	237	541	1029	1235	185
125°	257	305	530	871	982	229
135°	304	362	518	766	871	235
145°	350	401	511	640	705	220
155°	398	430	497	563	587	183
165°	434	447	476	504	512	122
175°	452	453	457	463	461	43
180°	453	453	453	453	453	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9
2.5°	378.3	378.0	377.8	377.6	377.4	376.9	376.4	375.8	375.1	374.5	375.1
5°	377.4	377.0	376.7	376.5	376.2	375.8	375.1	374.4	373.8	373.1	373.9
7.5°	374.2	374.0	373.8	373.6	373.4	373.1	372.6	372.0	371.5	371.0	371.8
10°	371.4	371.3	371.2	371.1	371.0	370.8	370.3	369.8	369.3	368.9	369.7
12.5°	367.7	367.7	367.7	367.7	367.7	367.5	367.1	366.8	366.5	366.2	366.9
15°	361.7	361.9	361.9	362.0	362.1	362.0	361.7	361.4	361.1	360.9	361.7
17.5°	353.6	353.8	354.1	354.4	354.6	354.8	354.7	354.6	354.6	354.5	355.4
20°	347.8	348.0	348.4	348.7	348.9	349.1	349.2	349.3	349.4	349.5	350.4
22.5°	341.3	341.7	342.1	342.4	342.8	343.0	343.2	343.4	343.6	343.8	344.6
25°	330.9	331.4	332.1	332.6	333.1	333.6	333.9	334.1	334.4	334.7	335.7
27.5°	319.2	320.1	320.9	321.7	322.5	323.2	323.6	324.0	324.5	324.9	325.8
30°	311.5	312.3	313.0	313.7	314.5	315.2	315.8	316.5	317.2	317.8	318.9
32.5°	303.1	304.0	304.9	305.8	306.7	307.5	308.2	308.9	309.7	310.4	311.6
35°	289.5	290.7	291.8	292.9	294.1	295.1	296.0	296.9	297.9	298.8	300.1
37.5°	276.0	277.2	278.6	279.8	281.2	282.3	283.6	284.7	285.9	287.0	288.4
40°	267.2	268.4	269.7	270.8	272.1	273.3	274.6	276.0	277.2	278.6	280.0
42.5°	257.1	258.4	259.8	261.2	262.5	263.9	265.6	267.1	268.6	270.1	271.7
45°	241.4	243.2	245.0	246.7	248.5	250.3	252.1	253.9	255.7	257.4	259.0
47.5°	226.5	228.4	230.2	232.0	233.8	235.8	237.8	240.0	242.0	244.1	245.7
50°	215.7	217.8	219.8	221.9	223.9	226.0	228.1	230.2	232.2	234.3	236.1
52.5°	204.9	207.0	209.0	211.1	213.1	215.3	217.7	220.1	222.4	224.8	226.7
55°	189.1	191.1	193.1	195.0	197.0	199.4	202.2	205.0	207.8	210.6	212.5
57.5°	171.5	173.9	176.3	178.8	181.2	183.8	186.6	189.4	192.2	195.0	197.2
60°	160.0	162.4	164.9	167.3	169.7	172.5	175.6	178.7	181.7	184.9	187.0
62.5°	148.8	151.5	154.2	156.9	159.4	162.4	165.4	168.5	171.7	174.8	176.9
65°	130.8	133.8	136.9	139.8	142.9	146.0	149.1	152.3	155.5	158.7	161.0
67.5°	113.5	116.7	119.9	123.1	126.3	129.6	133.0	136.4	139.8	143.2	145.6
70°	101.7	104.9	108.1	111.3	114.5	117.9	121.5	125.0	128.6	132.2	134.6
72.5°	90.2	93.5	96.8	100.0	103.3	106.8	110.6	114.4	118.2	122.0	124.4
75°	72.6	76.1	79.5	83.0	86.5	90.2	94.2	98.1	102.0	105.9	108.6
77.5°	56.2	59.8	63.5	67.1	70.8	74.7	78.8	83.0	87.1	91.2	93.9
80°	46.0	49.8	53.5	57.2	61.0	64.9	69.1	73.2	77.3	81.5	84.3
82.5°	35.8	39.8	43.7	47.6	51.5	55.5	59.7	63.8	67.9	72.1	74.9
85°	22.4	26.3	30.2	34.2	38.2	42.2	46.5	50.6	54.8	59.1	61.9
87.5°	12.7	16.9	21.2	25.2	29.2	33.2	38.3	42.4	46.9	51.4	53.9
90°	7.7	13.2	19.6	24.3	28.9	32.8	42.2	46.2	52.0	57.8	59.7
92.5°	16.6	24.6	36.3	50.6	67.0	89.2	138.4	211.5	282.9	322.2	277.6
95°	34.9	40.7	52.6	67.3	91.8	132.6	213.9	363.7	580.3	762.2	785.2
97.5°	57.7	60.4	70.6	84.0	105.0	139.6	203.0	327.3	542.7	798.3	973.7
100°	72.3	74.7	83.4	96.6	115.9	147.4	203.6	307.8	493.1	747.8	978.2
102.5°	86.6	90.1	97.7	109.9	128.2	158.1	209.3	301.3	459.4	685.5	923.0
105°	108.0	112.5	118.9	131.3	149.3	177.8	224.0	301.3	429.4	611.8	823.4
107.5°	132.4	135.7	141.8	154.7	171.6	199.4	241.8	312.5	422.2	569.5	742.5
110°	148.5	151.6	157.3	169.3	186.6	213.0	255.5	321.0	422.2	554.6	701.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	163.8	166.7	173.1	184.2	201.4	227.6	268.5	330.4	425.0	546.5	678.1
115°	185.9	189.4	196.5	206.3	224.0	249.9	288.6	345.0	430.8	540.6	654.9
117.5°	209.4	212.3	218.4	228.6	245.0	271.6	308.2	360.2	437.2	537.2	642.9
120°	224.6	226.8	233.3	243.3	258.7	285.2	321.7	370.7	441.9	535.5	636.1
122.5°	238.9	240.8	247.0	256.2	272.8	298.3	334.7	380.7	446.8	533.1	628.8
125°	257.2	260.6	265.9	275.6	292.4	318.4	352.8	396.2	454.6	529.9	617.2
127.5°	273.7	276.4	282.8	293.8	311.4	337.3	370.1	409.5	460.2	525.4	601.9
130°	282.6	286.1	293.1	306.3	323.2	349.6	381.5	417.7	464.6	523.0	592.4
132.5°	291.9	294.6	303.7	316.3	334.6	359.4	390.9	426.1	468.5	520.9	583.8
135°	304.4	308.0	316.8	332.0	350.7	374.2	404.2	436.9	474.0	517.5	570.6
137.5°	317.4	320.7	330.4	344.7	364.0	386.2	413.9	444.2	476.9	515.3	559.3
140°	326.6	329.2	338.9	354.0	372.6	394.0	420.7	449.3	479.7	513.6	553.1
142.5°	336.3	338.9	348.0	362.4	380.4	401.0	427.0	453.3	482.0	512.9	548.0
145°	350.3	352.8	361.7	374.0	390.8	410.4	433.5	457.5	483.4	511.0	540.0
147.5°	366.1	366.9	374.7	387.4	401.4	418.9	440.7	461.6	484.3	507.7	533.0
150°	376.1	376.9	383.9	394.5	407.8	424.6	444.3	463.8	484.3	505.6	527.9
152.5°	385.0	385.1	392.3	402.3	414.1	429.6	447.1	465.2	482.9	502.0	522.2
155°	397.9	398.8	404.1	413.0	422.8	436.2	451.3	466.5	480.7	496.8	513.6
157.5°	410.5	410.5	415.5	422.5	431.1	441.6	454.3	466.5	478.4	491.2	504.9
160°	418.4	418.4	422.0	428.2	435.3	445.1	455.8	466.5	476.3	487.0	498.6
162.5°	425.5	424.8	427.7	433.2	439.6	447.3	457.2	466.5	474.1	482.7	492.8
165°	433.5	433.5	435.3	439.8	444.3	449.5	457.5	464.7	470.0	476.3	483.4
167.5°	441.6	440.7	441.6	445.0	447.5	451.5	457.4	462.5	465.7	469.8	474.8
170°	445.1	444.3	445.1	447.8	449.5	452.2	456.6	461.1	462.9	465.6	469.1
172.5°	448.6	447.8	447.9	449.9	450.9	452.9	455.9	459.7	460.0	461.3	464.1
175°	452.2	451.3	451.3	452.2	453.1	453.1	454.9	457.5	456.6	456.6	458.4
177.5°	453.8	453.1	452.4	453.1	453.1	453.1	453.8	455.2	453.8	453.8	454.5
180°	453.1	453.1	453.1	453.1	453.1	453.1	453.1	453.1	453.1	453.1	453.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	376.9	376.9	376.9	376.9	376.9	376.9	376.9	376.9
2.5°	375.6	376.1	376.7	376.8	376.8	376.7	376.7	376.6
5°	374.6	375.3	376.1	376.5	376.4	376.2	376.1	376.0
7.5°	372.6	373.4	374.3	374.7	374.6	374.5	374.4	374.3
10°	370.6	371.4	372.3	372.6	372.6	372.5	372.4	372.3
12.5°	367.7	368.5	369.3	369.6	369.6	369.6	369.6	369.5
15°	362.6	363.4	364.3	364.6	364.5	364.4	364.4	364.3
17.5°	356.2	357.1	358.0	358.4	358.3	358.2	358.2	358.1
20°	351.3	352.3	353.2	353.7	353.7	353.7	353.7	353.7
22.5°	345.6	346.5	347.5	348.0	348.2	348.3	348.5	348.7
25°	336.8	337.8	338.9	339.4	339.5	339.6	339.7	339.7
27.5°	326.8	327.8	328.8	329.3	329.4	329.5	329.6	329.8
30°	319.9	320.9	321.9	322.5	322.7	323.0	323.2	323.3
32.5°	312.7	314.0	315.1	315.8	316.0	316.2	316.4	316.6
35°	301.5	302.7	304.1	304.9	305.1	305.4	305.8	306.0
37.5°	289.7	291.0	292.3	293.2	293.5	293.7	294.1	294.4
40°	281.4	282.8	284.2	285.1	285.4	285.9	286.2	286.6
42.5°	273.2	274.8	276.3	277.3	277.6	277.9	278.2	278.5
45°	260.6	262.3	263.9	264.8	265.4	265.8	266.3	266.7
47.5°	247.4	249.0	250.7	251.7	252.4	252.9	253.4	254.0
50°	238.0	239.9	241.7	243.0	243.5	244.1	244.7	245.2
52.5°	228.5	230.4	232.3	233.5	234.1	234.6	235.2	235.8
55°	214.4	216.2	218.1	219.4	219.9	220.4	221.1	221.6
57.5°	199.5	201.7	203.9	205.3	205.8	206.3	206.9	207.4
60°	189.2	191.4	193.5	194.9	195.7	196.4	197.2	198.0
62.5°	179.1	181.2	183.3	184.9	185.6	186.3	187.1	187.8
65°	163.4	165.8	168.1	169.6	170.4	171.1	171.9	172.6
67.5°	148.0	150.4	152.8	154.4	155.1	155.8	156.5	157.3
70°	137.1	139.7	142.2	143.8	144.5	145.2	145.8	146.4
72.5°	126.9	129.4	131.8	133.4	134.1	134.8	135.6	136.3
75°	111.2	113.8	116.5	118.2	119.0	119.8	120.7	121.5
77.5°	96.6	99.2	101.9	103.7	104.6	105.5	106.4	107.3
80°	87.1	89.9	92.7	94.5	95.2	96.0	96.8	97.5
82.5°	77.8	80.7	83.6	85.4	86.2	87.0	87.9	88.7
85°	64.7	67.5	70.4	72.2	73.1	74.1	75.0	76.0
87.5°	56.8	59.7	62.6	64.4	65.5	66.4	67.1	67.9
90°	63.2	66.9	70.4	72.2	73.8	75.5	75.3	76.1
92.5°	219.9	179.2	155.1	138.9	129.2	125.1	122.9	123.6
95°	701.4	566.0	449.2	364.5	321.8	295.1	279.8	269.1
97.5°	1013.6	964.8	880.2	788.9	725.8	673.0	647.1	629.4
100°	1110.7	1131.0	1089.9	1025.7	948.9	895.3	869.2	862.7
102.5°	1103.9	1194.7	1209.8	1183.9	1137.1	1098.5	1071.1	1066.1
105°	1029.6	1185.9	1276.4	1314.5	1317.0	1310.6	1298.9	1294.3
107.5°	925.4	1091.6	1218.1	1299.0	1343.6	1364.6	1374.2	1377.2
110°	862.5	1018.7	1149.9	1249.3	1313.2	1351.4	1368.2	1376.9





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CATALOG NUMBER: S124DIP-S350D1035U940-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	815.8	954.0	1078.1	1177.4	1249.9	1295.9	1319.1	1332.8
115°	768.2	879.8	986.0	1072.7	1143.8	1197.8	1227.0	1234.8
117.5°	743.3	835.9	919.8	993.5	1054.4	1099.9	1129.5	1135.8
120°	731.6	816.2	889.3	953.8	1005.3	1045.2	1069.1	1079.7
122.5°	721.3	803.1	869.8	926.4	970.0	1004.2	1024.4	1034.9
125°	704.4	782.7	846.0	896.1	932.3	958.6	976.1	982.0
127.5°	683.9	758.8	821.7	869.3	905.7	929.3	944.2	950.2
130°	668.0	739.9	802.2	850.5	887.5	910.3	925.1	931.0
132.5°	651.5	719.2	779.9	828.1	864.5	890.2	904.3	910.2
135°	628.1	687.5	743.3	788.9	825.0	850.5	865.3	871.2
137.5°	607.3	657.6	704.7	745.9	779.6	804.7	816.9	823.8
140°	595.3	638.3	679.6	717.8	749.5	769.5	782.5	790.1
142.5°	584.3	622.2	657.6	690.8	718.8	737.4	748.8	754.2
145°	569.1	599.9	627.1	652.6	675.2	690.7	700.0	704.8
147.5°	556.5	580.7	602.1	621.9	638.6	651.8	658.9	660.8
150°	549.3	569.7	587.5	603.6	617.8	629.4	634.7	635.6
152.5°	541.4	559.0	575.4	588.6	600.7	610.1	613.3	614.2
155°	529.7	543.9	557.2	567.9	576.8	584.0	586.7	586.7
157.5°	517.0	529.0	540.2	548.8	555.4	560.8	562.4	562.4
160°	509.2	519.0	528.8	535.9	541.3	546.6	547.5	547.5
162.5°	501.3	509.7	517.4	523.8	527.7	533.1	534.0	533.2
165°	490.5	495.9	502.0	506.5	510.1	513.6	512.7	511.8
167.5°	480.0	484.1	489.1	491.8	493.6	495.9	495.7	495.0
170°	473.6	476.3	479.8	482.5	484.3	485.2	484.3	484.3
172.5°	467.9	469.8	472.0	473.9	475.0	475.9	475.0	473.6
175°	460.2	461.1	462.9	462.9	462.9	464.7	462.9	461.1
177.5°	455.2	455.9	455.9	456.6	455.9	456.6	455.2	453.8
180°	453.1	453.1	453.1	453.1	453.1	453.1	453.1	453.1

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