

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: P332495-930

Luminaire Tested: **S124DIP-S350D365U930-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332495-930  
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-S350D365U930-4F0-1E-UDD-D4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2242.2 lumens  
Efficiency: N/A  
Efficacy: 110.5 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: General Diffuse

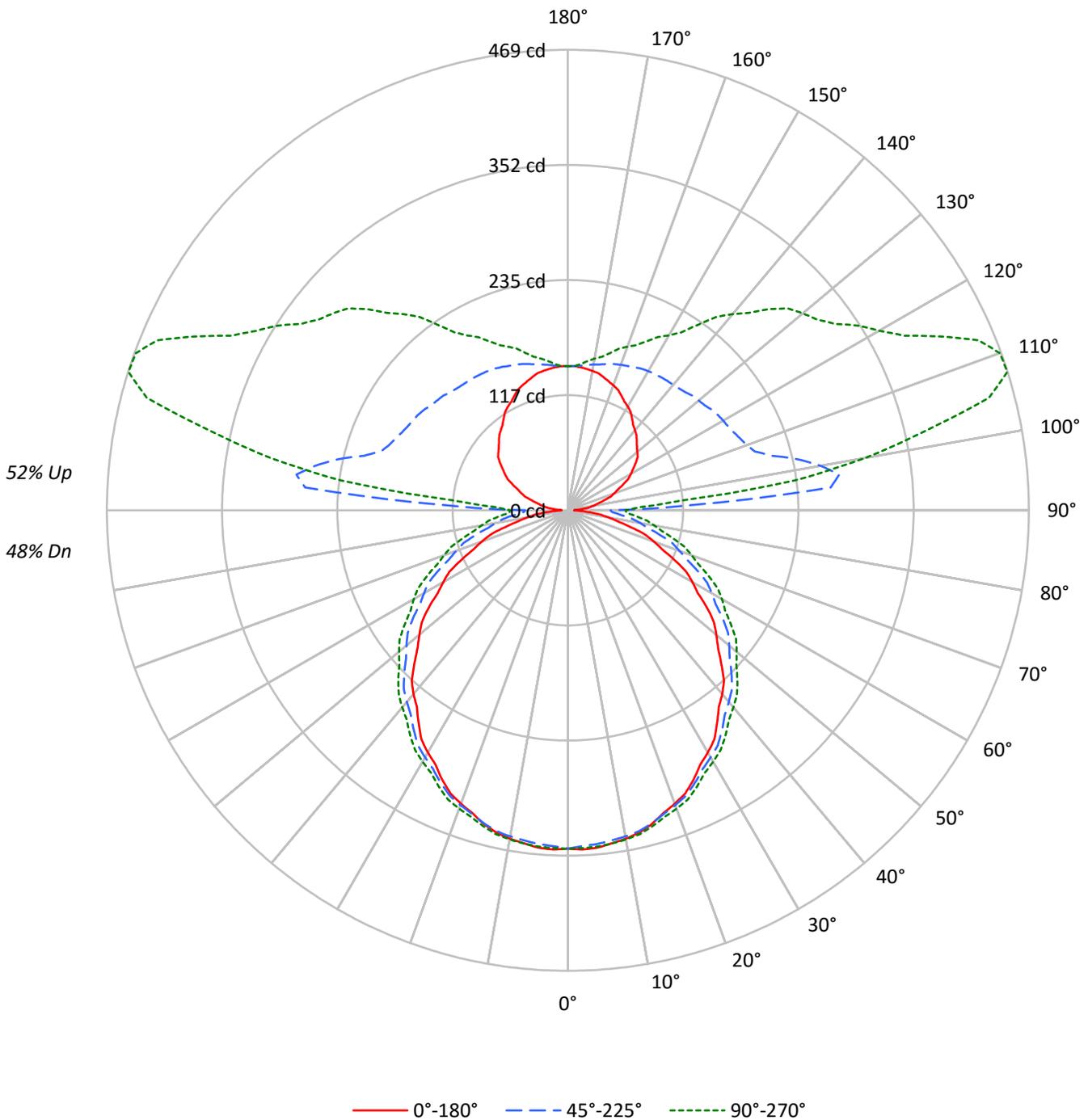
Input Watts (W): 20.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0	
RCR																						
0	107	107	107	107	98	98	98	98	82	82	82	68	68	68	55	55	55	48				48
1	96	92	87	84	89	84	81	77	71	68	66	58	56	55	47	45	44	39				39
2	87	79	73	67	80	73	68	63	61	57	54	51	48	45	41	38	36	32				32
3	79	70	62	56	73	64	57	52	54	49	45	44	41	37	36	33	31	26				26
4	73	61	53	47	66	57	49	44	48	42	38	39	35	32	32	29	26	22				22
5	66	54	46	40	61	50	43	37	42	37	32	35	31	27	28	25	22	19				19
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	26	22	20	17				17
7	56	44	36	30	52	41	33	28	34	29	24	29	24	21	23	20	17	15				15
8	52	40	32	26	48	37	30	25	31	26	22	26	22	19	21	18	15	13				13
9	49	36	29	23	45	34	27	22	29	23	19	24	20	17	20	16	14	12				12
10	45	33	26	21	42	31	24	20	26	21	17	22	18	15	18	15	13	11				11

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

	0°	45°	90°
0°	2782	2782	2782
5°	2791	2719	2726
10°	2774	2675	2673
15°	2749	2623	2608
20°	2711	2566	2547
25°	2669	2503	2478
30°	2623	2439	2408
35°	2571	2374	2347
40°	2530	2313	2282
45°	2468	2256	2228
50°	2417	2190	2169
55°	2363	2129	2101
60°	2280	2049	2039
65°	2187	1965	1962
70°	2076	1868	1874
75°	1922	1763	1793
80°	1750	1660	1713
85°	1534	1571	1669



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	32.6	1.5
10°-20°	93.5	4.2
20°-30°	141.4	6.3
30°-40°	171.1	7.6
40°-50°	180.8	8.1
50°-60°	170.2	7.6
60°-70°	141.2	6.3
70°-80°	99.2	4.4
80°-90°	56.9	2.5
90°-100°	139.2	6.2
100°-110°	245.1	10.9
110°-120°	214.0	9.5
120°-130°	175.4	7.8
130°-140°	142.5	6.4
140°-150°	106.6	4.8
150°-160°	74.4	3.3
160°-170°	43.7	2.0
170°-180°	14.2	0.6
0°-30°	267.5	11.9
0°-40°	438.6	19.6
0°-60°	789.6	35.2
0°-90°	1086.9	48.5
90°-120°	598.4	26.7
90°-150°	1023.0	45.6
90°-180°	1155.0	51.5
0°-180°	2242.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	345	345	345	345	345	
5°	345	344	341	344	344	33
15°	331	331	330	333	333	93
25°	303	305	306	310	311	139
35°	265	269	273	278	280	166
45°	221	228	235	242	244	171
55°	173	181	193	200	203	154
65°	120	132	145	154	158	119
75°	66	81	97	107	111	71
85°	20	37	54	65	70	22
90°	6	24	43	55	58	5
95°	14	48	268	160	118	15
105°	37	60	214	442	444	40
115°	62	81	187	350	419	61
125°	84	100	178	293	331	75
135°	99	118	170	254	290	77
145°	114	130	165	209	231	71
155°	129	139	161	182	190	59
165°	140	145	154	163	166	40
175°	146	147	148	150	149	14
180°	147	147	147	147	147	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6
2.5°	345.8	345.6	345.4	345.2	345.0	344.6	344.1	343.6	343.0	342.4	342.9
5°	345.0	344.7	344.5	344.2	344.0	343.6	342.9	342.3	341.8	341.1	341.9
7.5°	342.1	341.9	341.8	341.6	341.4	341.1	340.6	340.1	339.7	339.2	339.9
10°	339.6	339.5	339.4	339.3	339.2	339.0	338.6	338.1	337.7	337.3	338.0
12.5°	336.2	336.1	336.1	336.1	336.1	336.0	335.7	335.4	335.1	334.8	335.5
15°	330.7	330.8	330.9	331.0	331.1	331.0	330.7	330.4	330.2	330.0	330.7
17.5°	323.3	323.5	323.8	324.0	324.2	324.4	324.3	324.2	324.2	324.2	325.0
20°	318.0	318.2	318.5	318.8	319.0	319.2	319.3	319.4	319.4	319.5	320.4
22.5°	312.1	312.4	312.7	313.1	313.4	313.6	313.8	314.0	314.1	314.3	315.1
25°	302.6	303.0	303.6	304.1	304.6	305.0	305.2	305.5	305.7	306.1	307.0
27.5°	291.9	292.7	293.4	294.2	294.9	295.5	295.9	296.3	296.7	297.1	297.9
30°	284.8	285.5	286.2	286.8	287.6	288.2	288.8	289.3	290.0	290.6	291.6
32.5°	277.1	277.9	278.8	279.6	280.4	281.1	281.8	282.4	283.2	283.8	284.9
35°	264.7	265.8	266.8	267.8	268.9	269.8	270.7	271.5	272.4	273.2	274.4
37.5°	252.3	253.5	254.7	255.8	257.1	258.1	259.3	260.3	261.4	262.4	263.7
40°	244.3	245.4	246.5	247.6	248.7	249.9	251.1	252.3	253.5	254.7	256.0
42.5°	235.1	236.3	237.5	238.8	240.0	241.3	242.8	244.2	245.6	247.0	248.4
45°	220.7	222.3	224.0	225.6	227.2	228.9	230.5	232.1	233.7	235.4	236.8
47.5°	207.1	208.8	210.4	212.1	213.8	215.6	217.4	219.4	221.3	223.1	224.6
50°	197.2	199.1	201.0	202.8	204.7	206.6	208.6	210.4	212.3	214.2	215.9
52.5°	187.4	189.2	191.1	193.0	194.9	196.9	199.0	201.2	203.3	205.5	207.2
55°	172.9	174.7	176.5	178.3	180.1	182.3	184.8	187.4	190.0	192.6	194.3
57.5°	156.8	159.0	161.2	163.5	165.7	168.0	170.6	173.2	175.7	178.3	180.3
60°	146.3	148.5	150.7	153.0	155.2	157.7	160.5	163.4	166.2	169.0	171.0
62.5°	136.1	138.5	141.0	143.4	145.8	148.5	151.2	154.1	156.9	159.8	161.8
65°	119.6	122.4	125.1	127.8	130.6	133.5	136.3	139.3	142.2	145.1	147.2
67.5°	103.8	106.7	109.7	112.6	115.4	118.5	121.6	124.7	127.8	130.9	133.1
70°	93.0	95.9	98.8	101.7	104.7	107.8	111.0	114.3	117.6	120.8	123.1
72.5°	82.5	85.5	88.5	91.5	94.4	97.7	101.1	104.6	108.0	111.5	113.7
75°	66.4	69.5	72.7	75.9	79.1	82.4	86.1	89.7	93.3	96.9	99.3
77.5°	51.4	54.7	58.0	61.4	64.7	68.3	72.1	75.9	79.7	83.4	85.9
80°	42.1	45.5	48.9	52.3	55.8	59.4	63.2	66.9	70.7	74.5	77.0
82.5°	32.8	36.4	39.9	43.5	47.0	50.7	54.5	58.3	62.0	65.9	68.5
85°	20.5	24.1	27.6	31.2	34.9	38.6	42.5	46.3	50.1	54.1	56.6
87.5°	11.5	15.1	18.8	22.3	25.8	29.5	33.6	37.3	41.3	45.1	47.5
90°	6.4	10.4	14.8	18.5	22.2	25.8	31.1	34.9	39.1	43.4	45.6
92.5°	9.1	13.7	19.6	26.2	33.4	42.8	61.1	87.2	112.7	127.8	114.9
95°	14.5	18.2	24.0	30.5	40.3	55.5	84.1	134.9	207.2	268.4	277.4
97.5°	21.6	24.1	28.9	34.9	43.2	56.3	79.1	121.6	193.6	278.5	336.8
100°	26.2	28.4	32.6	38.3	46.0	58.0	78.4	114.3	176.4	261.0	337.0
102.5°	30.7	33.2	36.9	42.1	49.3	60.7	79.3	111.3	164.5	239.9	318.2
105°	37.2	39.8	42.9	48.1	55.0	65.8	82.8	109.9	153.4	214.5	284.4
107.5°	45.1	47.0	49.9	55.0	61.3	71.8	87.5	112.3	149.7	199.3	256.7
110°	50.1	51.9	54.5	59.1	65.6	75.4	91.1	114.2	149.0	193.7	242.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	54.8	56.4	59.2	63.5	69.7	79.5	94.6	116.4	149.0	190.1	233.9
115°	61.6	63.3	66.1	69.8	76.0	85.5	99.8	119.8	149.4	186.7	224.9
117.5°	69.2	70.4	72.7	76.4	81.9	91.6	105.0	123.5	150.1	184.1	219.5
120°	73.9	74.8	77.0	80.5	85.7	95.1	108.5	126.0	150.7	182.5	216.2
122.5°	78.6	79.2	81.3	84.3	89.7	98.7	112.0	128.4	151.3	180.8	212.9
125°	84.2	85.3	87.0	90.0	95.4	104.5	117.1	132.4	152.7	178.5	207.8
127.5°	89.5	90.3	92.4	95.9	101.5	110.4	122.1	135.9	153.4	175.5	201.3
130°	92.2	93.3	95.5	99.7	105.1	114.1	125.3	137.9	154.0	173.8	197.2
132.5°	95.2	96.0	99.0	103.0	108.8	117.2	128.1	140.2	154.7	172.4	193.6
135°	99.1	100.2	103.1	107.9	114.0	121.8	131.9	142.9	155.3	169.7	187.8
137.5°	103.2	104.3	107.3	111.9	118.1	125.4	134.5	144.5	155.3	167.9	183.0
140°	106.2	107.0	110.1	114.9	120.9	127.8	136.5	145.9	155.7	166.7	180.3
142.5°	109.2	110.0	112.9	117.6	123.4	130.0	138.4	146.8	156.1	166.2	178.1
145°	113.7	114.4	117.2	121.2	126.5	132.8	140.3	148.1	156.5	165.4	175.1
147.5°	118.8	119.0	121.4	125.5	130.0	135.6	142.6	149.4	156.8	164.4	172.5
150°	122.0	122.2	124.4	127.8	132.0	137.5	143.8	150.1	156.8	163.6	170.9
152.5°	124.7	124.7	127.0	130.2	134.0	139.1	144.7	150.6	156.3	162.5	169.0
155°	128.8	129.1	130.9	133.7	136.9	141.2	146.1	151.0	155.6	160.8	166.2
157.5°	132.9	132.9	134.5	136.7	139.5	142.9	147.1	151.0	154.8	159.0	163.5
160°	135.4	135.4	136.6	138.6	140.9	144.1	147.6	151.0	154.2	157.6	161.3
162.5°	137.7	137.5	138.4	140.2	142.3	144.8	148.0	151.0	153.4	156.2	159.6
165°	140.3	140.3	140.9	142.4	143.8	145.5	148.1	150.4	152.1	154.2	156.5
167.5°	142.9	142.6	142.9	144.0	144.8	146.2	148.1	149.7	150.7	152.1	153.7
170°	144.1	143.8	144.1	145.0	145.5	146.3	147.8	149.3	149.9	150.7	151.9
172.5°	145.2	145.0	145.0	145.6	145.9	146.6	147.6	148.8	149.0	149.3	150.3
175°	146.3	146.1	146.1	146.3	146.7	146.7	147.2	148.1	147.8	147.8	148.4
177.5°	146.9	146.7	146.4	146.7	146.7	146.7	146.9	147.3	146.9	146.9	147.2
180°	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6
2.5°	343.4	343.9	344.4	344.5	344.5	344.5	344.4	344.3
5°	342.5	343.2	343.9	344.2	344.1	344.0	343.9	343.8
7.5°	340.7	341.4	342.3	342.6	342.5	342.4	342.3	342.3
10°	338.8	339.6	340.4	340.7	340.6	340.6	340.5	340.4
12.5°	336.2	337.0	337.6	337.9	337.9	337.9	337.9	337.9
15°	331.5	332.2	333.0	333.4	333.3	333.2	333.1	333.0
17.5°	325.7	326.5	327.3	327.7	327.6	327.5	327.5	327.4
20°	321.2	322.1	322.9	323.4	323.4	323.4	323.4	323.4
22.5°	316.0	316.8	317.7	318.2	318.4	318.5	318.6	318.8
25°	307.9	308.8	309.8	310.3	310.4	310.5	310.5	310.6
27.5°	298.8	299.7	300.6	301.1	301.2	301.3	301.3	301.5
30°	292.4	293.4	294.3	294.9	295.1	295.3	295.5	295.6
32.5°	285.9	287.1	288.1	288.8	288.9	289.1	289.3	289.4
35°	275.7	276.8	278.0	278.8	279.0	279.2	279.6	279.8
37.5°	264.9	266.0	267.3	268.1	268.3	268.6	268.9	269.1
40°	257.3	258.5	259.8	260.7	261.0	261.4	261.7	262.0
42.5°	249.8	251.3	252.7	253.6	253.8	254.0	254.4	254.6
45°	238.3	239.8	241.2	242.1	242.6	243.0	243.4	243.9
47.5°	226.2	227.6	229.2	230.2	230.7	231.2	231.7	232.3
50°	217.6	219.3	221.0	222.2	222.7	223.1	223.7	224.2
52.5°	209.0	210.7	212.4	213.5	214.0	214.5	215.1	215.6
55°	196.0	197.7	199.4	200.6	201.1	201.5	202.1	202.6
57.5°	182.4	184.4	186.5	187.7	188.2	188.7	189.1	189.6
60°	173.0	175.0	176.9	178.2	179.0	179.6	180.3	181.0
62.5°	163.7	165.7	167.6	169.0	169.7	170.3	171.0	171.7
65°	149.4	151.6	153.7	155.1	155.8	156.5	157.2	157.8
67.5°	135.3	137.5	139.7	141.1	141.8	142.4	143.1	143.8
70°	125.4	127.8	130.0	131.5	132.1	132.7	133.3	133.9
72.5°	116.0	118.3	120.5	122.0	122.6	123.3	124.0	124.7
75°	101.7	104.0	106.5	108.0	108.8	109.6	110.4	111.1
77.5°	88.3	90.7	93.2	94.8	95.6	96.4	97.3	98.1
80°	79.7	82.2	84.8	86.4	87.1	87.8	88.5	89.1
82.5°	71.1	73.8	76.4	78.1	78.8	79.6	80.4	81.1
85°	59.2	61.7	64.3	66.0	66.9	67.8	68.6	69.5
87.5°	50.1	52.6	55.2	56.8	57.6	58.5	59.1	59.8
90°	48.3	51.1	53.9	55.5	56.5	57.5	57.9	58.5
92.5°	97.8	86.2	79.9	75.7	73.0	72.2	71.8	72.5
95°	251.7	209.4	173.1	146.7	133.3	125.1	120.7	117.8
97.5°	351.1	336.8	310.9	282.3	262.3	245.7	237.8	232.5
100°	381.5	389.6	377.7	357.9	333.4	316.4	308.4	306.7
102.5°	378.1	409.0	415.3	407.9	393.2	381.2	372.7	371.5
105°	352.5	404.5	435.1	448.4	449.6	448.0	444.7	443.6
107.5°	317.2	372.4	414.7	441.8	456.6	463.8	467.3	468.7
110°	296.0	347.7	391.5	424.5	445.7	458.4	464.3	467.7



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CATALOG NUMBER: S124DIP-S350D365U930-4F0-1E-UDD-D4

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	279.7	325.7	367.1	400.1	424.0	439.4	447.3	452.2
115°	262.8	300.1	335.7	364.6	388.0	405.9	415.7	418.7
117.5°	253.2	284.2	312.6	337.2	357.3	372.6	382.5	385.1
120°	248.3	276.7	301.5	323.2	340.3	353.7	361.8	365.7
122.5°	243.9	271.5	294.2	313.3	327.8	339.2	346.2	350.0
125°	237.1	263.5	285.0	301.9	314.0	322.9	328.8	331.1
127.5°	228.9	254.0	275.4	291.6	303.7	311.7	316.9	319.3
130°	222.7	247.0	268.2	284.5	296.8	304.5	309.6	311.9
132.5°	216.5	239.3	259.9	276.2	288.3	296.9	301.8	304.1
135°	207.3	227.5	246.4	261.7	273.8	282.3	287.5	289.8
137.5°	199.3	216.4	232.4	246.3	257.6	265.9	270.1	272.6
140°	194.6	209.3	223.4	236.3	246.7	253.5	258.0	260.7
142.5°	190.5	203.4	215.5	226.7	235.9	242.2	246.1	248.1
145°	184.8	195.2	204.3	212.9	220.4	225.6	228.9	230.6
147.5°	180.3	188.1	195.1	201.5	207.2	211.7	214.1	214.9
150°	177.8	184.4	190.2	195.3	200.0	203.7	205.5	205.7
152.5°	175.3	181.0	186.3	190.5	194.4	197.5	198.5	198.9
155°	171.5	176.0	180.3	183.8	186.7	189.0	189.9	189.9
157.5°	167.4	171.2	174.9	177.7	179.8	181.6	182.1	182.1
160°	164.9	168.0	171.1	173.5	175.2	176.9	177.2	177.2
162.5°	162.3	165.0	167.5	169.6	170.8	172.5	172.8	172.6
165°	158.7	160.5	162.5	164.0	165.1	166.2	166.0	165.7
167.5°	155.4	156.7	158.3	159.1	159.7	160.5	160.5	160.2
170°	153.3	154.2	155.3	156.2	156.8	157.0	156.8	156.8
172.5°	151.5	152.1	152.8	153.4	153.8	154.0	153.8	153.3
175°	149.0	149.3	149.9	149.9	149.9	150.4	149.9	149.3
177.5°	147.3	147.6	147.6	147.8	147.6	147.8	147.3	146.9
180°	146.7	146.7	146.7	146.7	146.7	146.7	146.7	146.7

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