

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: P332514-935

Luminaire Tested: **S124DIP-S350D810U935-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332514-935
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-S350D810U935-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4092.0 lumens
Efficiency: N/A
Efficacy: 131.2 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

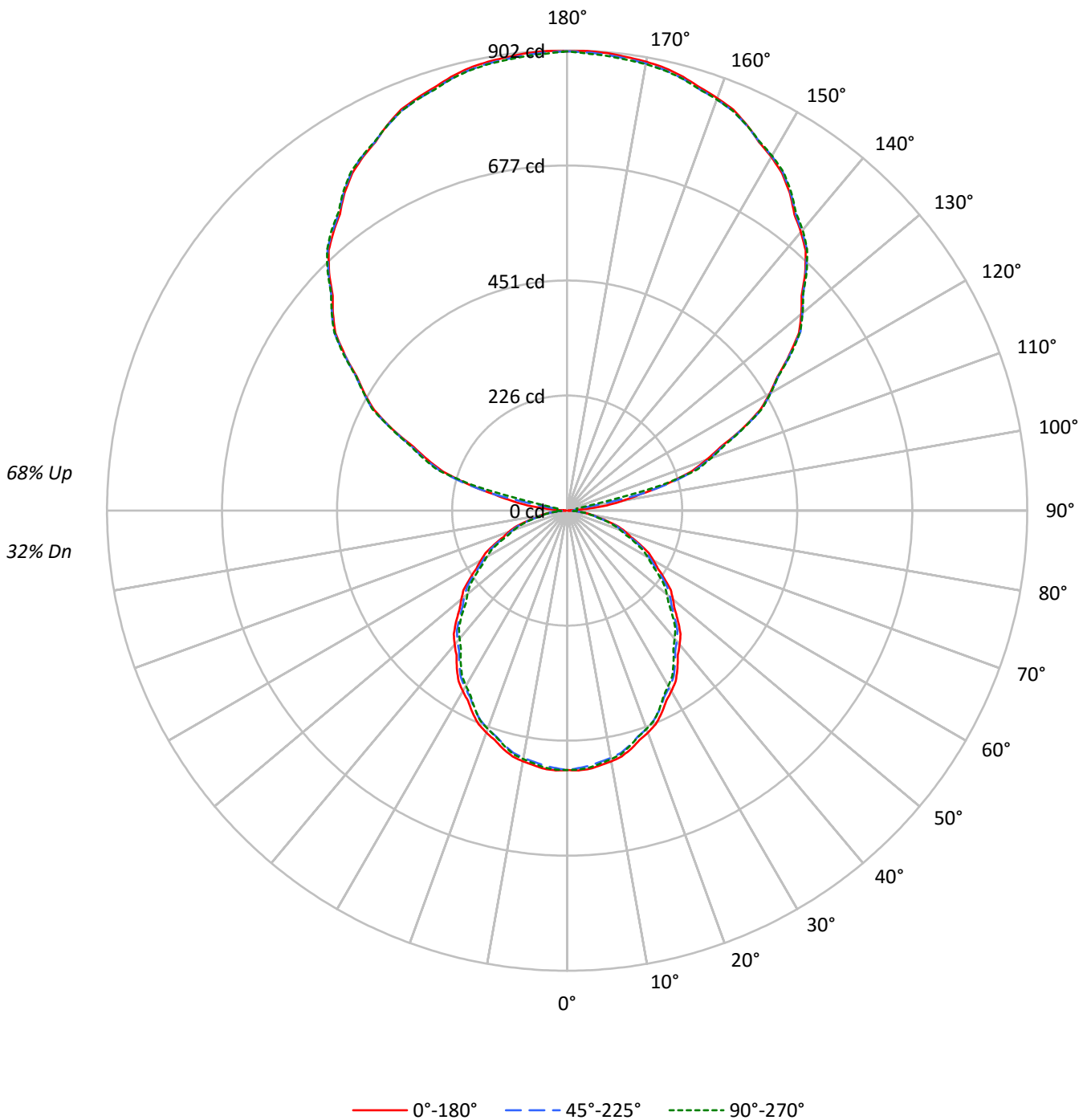
Input Watts (W): 31.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0		
RCR																										
0	103	103	103	103	93	93	93	93	73	73	73	56	56	56	40	40	40	32					32			
1	94	89	86	82	84	81	77	75	64	62	60	49	47	46	35	34	33	27					27			
2	85	78	72	67	76	70	65	61	56	53	50	43	41	39	31	29	28	22					22			
3	78	69	61	56	70	62	56	51	49	45	42	38	35	33	27	25	24	19					19			
4	71	61	53	47	64	55	48	43	44	39	35	34	30	28	24	22	20	16					16			
5	65	54	46	40	58	49	42	37	39	34	30	30	27	24	22	20	18	14					14			
6	60	48	40	35	54	44	37	32	35	30	26	27	24	21	20	17	16	12					12			
7	55	43	36	30	50	39	33	28	32	27	23	25	21	18	18	16	14	11					11			
8	51	39	32	27	46	36	29	25	29	24	20	23	19	16	17	14	12	10					10			
9	48	36	28	24	43	33	26	22	26	22	18	21	17	15	15	13	11	9					9			
10	44	33	26	21	40	30	24	19	24	20	16	19	16	13	14	12	10	8					8			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4106	4106	4106
5°	4118	4068	4099
10°	4092	4036	4055
15°	4043	3978	3989
20°	3978	3907	3911
25°	3902	3827	3815
30°	3811	3731	3697
35°	3714	3631	3582
40°	3616	3518	3453
45°	3513	3406	3342
50°	3399	3307	3204
55°	3275	3178	3074
60°	3152	3034	2942
65°	3012	2896	2779
70°	2858	2712	2608
75°	2617	2492	2427
80°	2329	2236	2176
85°	2038	1964	1927



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.9	1.2
10°-20°	135.0	3.3
20°-30°	198.6	4.9
30°-40°	230.9	5.6
40°-50°	230.9	5.6
50°-60°	202.0	4.9
60°-70°	150.0	3.7
70°-80°	85.2	2.1
80°-90°	27.2	0.7
90°-100°	30.8	0.8
100°-110°	196.3	4.8
110°-120°	375.5	9.2
120°-130°	476.7	11.6
130°-140°	510.0	12.5
140°-150°	476.9	11.7
150°-160°	384.6	9.4
160°-170°	248.0	6.1
170°-180°	85.5	2.1
0°-30°	381.5	9.3
0°-40°	612.4	15.0
0°-60°	1045.3	25.5
0°-90°	1307.8	32.0
90°-120°	602.6	14.7
90°-150°	2066.1	50.5
90°-180°	2784.0	68.0
0°-180°	4092.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	509	509	509	509	509	
5°	508	506	502	506	506	48
15°	484	482	476	478	477	136
25°	438	435	430	430	428	201
35°	377	374	368	366	364	236
45°	308	305	298	294	293	237
55°	233	231	226	221	218	208
65°	158	156	152	148	146	156
75°	84	82	80	78	78	89
85°	22	22	21	21	21	24
90°	2	9	15	19	20	3
95°	37	15	15	19	20	48
105°	203	207	210	214	192	212
115°	378	380	380	381	381	372
125°	532	534	533	535	536	475
135°	660	659	662	663	664	508
145°	761	763	763	763	765	475
155°	834	835	833	835	833	384
165°	880	877	876	881	876	249
175°	900	896	897	902	895	86
180°	900	900	900	900	900	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6
2.5°	509.9	509.7	509.5	509.3	509.0	508.5	507.7	507.0	506.2	505.3	506.1
5°	508.2	507.8	507.5	507.1	506.8	506.1	505.1	504.1	503.1	502.0	503.1
7.5°	503.5	503.1	502.7	502.4	502.0	501.3	500.2	499.1	498.0	496.9	497.7
10°	499.2	498.9	498.5	498.2	497.8	497.1	495.8	494.6	493.5	492.3	493.0
12.5°	493.7	493.4	493.0	492.6	492.2	491.5	490.2	489.0	487.7	486.5	487.2
15°	483.7	483.4	483.0	482.7	482.3	481.5	480.1	478.7	477.3	476.0	476.6
17.5°	471.7	471.3	470.9	470.5	469.9	469.1	467.8	466.5	465.2	463.9	464.3
20°	463.0	462.5	462.1	461.6	461.2	460.3	458.9	457.5	456.2	454.8	455.1
22.5°	453.5	452.9	452.3	451.7	451.1	450.1	448.8	447.5	446.1	444.7	445.2
25°	438.1	437.5	436.9	436.2	435.6	434.6	433.3	432.0	430.8	429.6	429.6
27.5°	420.5	419.8	419.2	418.5	417.9	417.0	415.8	414.7	413.5	412.2	412.1
30°	408.8	408.0	407.3	406.6	405.9	404.9	403.7	402.5	401.4	400.2	399.8
32.5°	396.4	395.7	395.0	394.4	393.7	392.8	391.6	390.3	389.1	387.8	387.4
35°	376.9	376.3	375.7	375.1	374.4	373.5	372.2	370.9	369.7	368.4	367.8
37.5°	356.5	355.9	355.3	354.8	354.2	353.3	351.9	350.5	349.1	347.8	347.1
40°	343.1	342.4	341.7	341.0	340.3	339.2	337.9	336.5	335.1	333.8	332.9
42.5°	328.8	328.4	328.0	327.5	327.1	326.1	324.6	323.0	321.6	320.1	319.0
45°	307.7	307.0	306.4	305.8	305.1	304.1	302.6	301.2	299.8	298.3	297.3
47.5°	285.6	285.2	284.7	284.3	283.9	283.0	281.6	280.3	279.0	277.6	276.5
50°	270.6	270.3	269.9	269.5	269.1	268.4	267.1	265.8	264.5	263.3	262.0
52.5°	256.0	255.5	255.0	254.6	254.2	253.3	251.9	250.6	249.3	248.0	246.8
55°	232.7	232.5	232.1	231.9	231.6	230.8	229.5	228.3	227.0	225.8	224.7
57.5°	210.5	210.3	209.9	209.7	209.3	208.5	207.2	206.0	204.7	203.5	202.5
60°	195.2	194.8	194.3	193.8	193.4	192.6	191.4	190.2	189.1	187.9	187.1
62.5°	180.2	179.9	179.4	179.1	178.7	177.9	176.6	175.4	174.1	172.9	172.1
65°	157.7	157.3	156.8	156.4	155.9	155.2	154.3	153.4	152.5	151.6	150.7
67.5°	135.1	134.7	134.2	133.8	133.4	132.8	131.9	131.0	130.2	129.2	128.4
70°	121.1	120.4	119.8	119.2	118.5	117.8	117.1	116.4	115.6	114.9	114.2
72.5°	106.1	105.4	104.8	104.2	103.5	102.9	102.3	101.8	101.2	100.6	100.0
75°	83.9	83.5	83.1	82.6	82.1	81.7	81.3	80.8	80.3	79.9	79.6
77.5°	62.9	62.7	62.4	62.3	62.1	61.7	61.4	61.0	60.5	60.2	60.0
80°	50.1	49.9	49.6	49.3	49.1	48.8	48.6	48.5	48.3	48.1	47.9
82.5°	37.7	37.6	37.5	37.4	37.2	37.1	37.1	37.1	37.0	37.0	36.9
85°	22.0	22.0	22.0	22.0	22.0	22.0	21.7	21.5	21.4	21.2	21.2
87.5°	8.9	9.1	9.4	9.6	9.9	10.2	10.2	10.4	10.6	10.8	10.9
90°	2.0	3.7	5.3	7.0	8.6	10.0	11.2	12.4	13.6	14.8	15.7
92.5°	8.5	8.6	8.7	8.8	8.9	9.5	10.7	11.9	13.1	14.3	15.2
95°	37.0	31.9	26.9	21.8	16.7	14.2	14.4	14.6	14.6	14.8	15.7
97.5°	78.6	81.8	85.0	88.2	91.4	84.6	67.8	51.1	34.4	17.7	17.8
100°	110.4	113.1	115.8	118.5	121.1	112.2	91.5	70.9	50.3	29.6	27.0
102.5°	145.9	147.9	149.9	151.9	153.9	153.5	150.8	148.1	145.4	142.8	115.3
105°	202.6	203.5	204.4	205.3	206.2	207.1	207.8	208.5	209.3	210.0	211.4
107.5°	255.3	255.7	256.1	256.7	257.1	257.8	258.8	259.8	260.9	261.9	262.5
110°	290.8	291.3	291.7	292.1	292.7	293.3	294.2	295.1	296.0	296.9	297.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	325.3	326.1	326.9	327.7	328.6	329.2	329.6	329.9	330.4	330.8	330.8
115°	378.3	378.8	379.3	379.7	380.1	380.3	380.1	380.0	379.9	379.7	380.0
117.5°	426.1	426.7	427.3	427.9	428.5	429.0	429.3	429.6	430.0	430.3	430.2
120°	458.5	459.1	459.7	460.3	460.8	461.1	460.9	460.8	460.6	460.5	460.8
122.5°	488.6	489.0	489.3	489.7	490.1	490.3	490.5	490.8	490.9	491.2	491.4
125°	531.8	532.4	533.0	533.6	534.3	534.3	534.1	533.8	533.5	533.2	533.6
127.5°	572.7	572.9	573.1	573.3	573.3	573.8	574.5	575.1	575.8	576.5	576.4
130°	599.2	599.3	599.4	599.6	599.8	600.0	600.5	601.0	601.4	601.8	602.0
132.5°	623.4	623.6	624.0	624.2	624.5	624.9	625.4	626.0	626.5	627.2	627.3
135°	659.8	659.6	659.4	659.3	659.2	659.4	660.0	660.6	661.2	661.8	662.0
137.5°	691.9	692.0	692.1	692.1	692.2	692.5	693.2	693.9	694.5	695.2	695.5
140°	712.9	713.3	713.5	713.9	714.1	714.5	714.7	715.1	715.3	715.6	716.1
142.5°	731.8	732.3	732.9	733.4	733.9	734.3	734.4	734.7	734.9	735.0	735.4
145°	760.7	761.2	761.6	762.1	762.5	762.8	762.8	762.8	762.8	762.8	762.9
147.5°	783.8	784.6	785.4	786.3	787.1	787.5	787.3	787.1	787.0	786.9	787.0
150°	800.5	801.1	801.7	802.3	802.8	803.1	802.9	802.8	802.6	802.5	802.5
152.5°	814.4	814.9	815.4	815.9	816.4	816.5	816.2	816.0	815.6	815.4	815.6
155°	834.1	834.2	834.4	834.6	834.7	834.6	834.1	833.6	833.2	832.8	833.4
157.5°	850.7	850.6	850.5	850.4	850.3	850.0	849.5	849.0	848.5	848.0	848.8
160°	860.4	859.9	859.5	859.0	858.6	858.2	858.2	858.0	857.8	857.6	858.6
162.5°	869.0	868.4	867.8	867.3	866.7	866.3	866.2	866.1	865.9	865.7	866.7
165°	879.9	879.2	878.4	877.6	876.9	876.5	876.5	876.5	876.5	876.5	877.7
167.5°	888.5	887.7	886.9	886.1	885.4	884.9	884.8	884.8	884.7	884.6	885.9
170°	893.4	892.4	891.6	890.6	889.8	889.4	889.5	889.7	889.8	890.0	891.1
172.5°	896.6	895.7	894.8	893.9	893.0	892.6	892.8	892.9	893.0	893.2	894.4
175°	900.1	899.1	898.3	897.4	896.5	896.1	896.3	896.4	896.6	896.7	898.0
177.5°	901.7	900.9	900.0	899.1	898.4	898.0	898.3	898.5	898.8	899.0	899.9
180°	900.1	900.1	900.1	900.1	900.1	900.1	900.1	900.1	900.1	900.1	900.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	508.6	508.6	508.6	508.6	508.6	508.6	508.6	508.6
2.5°	506.8	507.6	508.2	508.6	508.5	508.4	508.3	508.2
5°	504.1	505.1	506.1	506.4	506.3	506.1	505.9	505.8
7.5°	498.4	499.3	500.1	500.4	500.3	500.2	500.1	500.0
10°	493.8	494.5	495.2	495.5	495.3	495.1	494.9	494.7
12.5°	488.0	488.8	489.7	489.9	489.7	489.4	489.1	488.9
15°	477.1	477.6	478.2	478.3	478.0	477.8	477.5	477.3
17.5°	464.6	464.9	465.3	465.4	465.2	465.0	464.9	464.7
20°	455.4	455.6	455.9	456.0	455.7	455.6	455.4	455.2
22.5°	445.7	446.2	446.7	446.8	446.4	446.1	445.7	445.5
25°	429.7	429.8	429.9	429.8	429.4	429.0	428.7	428.3
27.5°	411.8	411.6	411.4	411.0	410.6	410.2	409.7	409.2
30°	399.5	399.2	398.7	398.4	397.9	397.4	397.0	396.6
32.5°	386.9	386.5	386.1	385.6	385.2	384.7	384.3	383.8
35°	367.1	366.5	365.8	365.3	364.9	364.5	363.9	363.5
37.5°	346.4	345.7	345.0	344.4	343.8	343.2	342.6	342.0
40°	332.0	331.1	330.2	329.5	329.0	328.6	328.1	327.7
42.5°	318.0	316.9	315.9	315.2	314.9	314.6	314.3	314.0
45°	296.4	295.3	294.4	293.7	293.4	293.2	292.9	292.7
47.5°	275.3	274.2	273.1	272.2	271.6	270.9	270.2	269.5
50°	260.7	259.5	258.2	257.3	256.8	256.2	255.6	255.1
52.5°	245.7	244.6	243.5	242.5	241.9	241.2	240.5	239.8
55°	223.6	222.5	221.4	220.6	220.1	219.6	219.0	218.4
57.5°	201.5	200.4	199.4	198.6	198.1	197.6	197.1	196.5
60°	186.2	185.5	184.6	184.0	183.6	183.0	182.6	182.2
62.5°	171.4	170.7	169.9	169.3	168.8	168.4	168.0	167.5
65°	149.8	148.9	148.0	147.3	146.9	146.4	145.9	145.5
67.5°	127.5	126.7	125.8	125.3	125.2	125.0	124.9	124.8
70°	113.5	112.8	112.0	111.5	111.2	111.0	110.7	110.5
72.5°	99.4	98.8	98.2	97.8	97.6	97.3	97.0	96.8
75°	79.1	78.8	78.4	78.2	78.1	78.0	77.9	77.8
77.5°	59.9	59.8	59.8	59.6	59.3	59.1	58.8	58.6
80°	47.7	47.5	47.4	47.3	47.1	47.0	46.9	46.8
82.5°	36.8	36.7	36.6	36.5	36.4	36.2	36.2	36.1
85°	21.2	21.2	21.2	21.2	21.1	21.0	20.8	20.8
87.5°	11.1	11.4	11.5	11.6	11.7	11.7	11.8	11.9
90°	16.6	17.5	18.4	19.0	19.3	19.6	19.9	20.2
92.5°	16.1	17.0	17.8	18.3	18.4	18.4	18.5	18.6
95°	16.6	17.5	18.4	18.9	19.1	19.2	19.4	19.5
97.5°	18.0	18.1	18.2	18.3	18.4	18.5	18.7	18.9
100°	24.5	22.0	19.5	18.3	18.4	18.5	18.7	18.9
102.5°	87.8	60.4	33.0	19.3	19.3	19.3	19.4	19.4
105°	212.8	214.0	215.4	213.4	208.0	202.6	197.3	191.8
107.5°	263.2	263.8	264.5	265.1	265.7	266.2	266.8	267.4
110°	297.5	297.8	298.1	298.4	298.9	299.4	299.8	300.2



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CATALOG NUMBER: S124DIP-S350D810U935-4F0-1E-UDD-F

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	330.7	330.6	330.5	330.8	331.4	332.0	332.5	333.1
115°	380.3	380.6	380.9	381.1	381.1	381.1	381.1	381.1
117.5°	430.2	430.2	430.1	430.0	430.0	429.9	429.8	429.8
120°	461.1	461.4	461.7	461.7	461.4	461.1	460.8	460.5
122.5°	491.5	491.7	491.9	491.8	491.5	491.2	490.9	490.6
125°	534.1	534.5	534.9	535.3	535.5	535.5	535.7	535.9
127.5°	576.4	576.3	576.2	576.1	575.9	575.8	575.8	575.6
130°	602.2	602.3	602.4	602.5	602.5	602.5	602.5	602.5
132.5°	627.5	627.6	627.8	627.8	627.7	627.5	627.4	627.3
135°	662.4	662.6	663.0	663.2	663.6	663.8	664.2	664.4
137.5°	695.8	696.1	696.5	696.5	696.5	696.4	696.3	696.2
140°	716.5	717.0	717.4	717.7	717.9	718.0	718.2	718.3
142.5°	735.6	736.0	736.3	736.5	736.5	736.6	736.6	736.6
145°	763.0	763.2	763.4	763.5	763.9	764.1	764.5	764.7
147.5°	787.1	787.2	787.3	787.5	787.6	787.7	787.9	788.1
150°	802.5	802.5	802.5	802.5	802.7	802.8	803.0	803.1
152.5°	815.9	816.1	816.3	816.4	816.3	816.2	816.1	816.1
155°	834.0	834.6	835.2	835.3	834.7	834.3	833.9	833.4
157.5°	849.5	850.3	851.1	851.1	850.3	849.5	848.8	848.0
160°	859.5	860.4	861.3	861.3	860.4	859.5	858.6	857.6
162.5°	867.5	868.4	869.4	869.3	868.2	867.2	866.3	865.2
165°	878.9	880.1	881.3	881.2	879.9	878.6	877.2	875.8
167.5°	887.3	888.6	889.8	889.8	888.3	886.7	885.3	883.8
170°	892.3	893.5	894.8	894.6	893.1	891.7	890.1	888.6
172.5°	895.6	896.8	898.0	897.8	896.2	894.6	892.9	891.3
175°	899.4	900.8	902.1	901.9	900.1	898.3	896.5	894.7
177.5°	901.0	901.9	902.8	902.6	901.1	899.7	898.3	896.8
180°	900.1	900.1	900.1	900.1	900.1	900.1	900.1	900.1

(END OF REPORT)