

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: P331497-940

Luminaire Tested: **S122DIW-S485D435U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331497-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S485D435U940-4F0-1E-UDD-D
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 435 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

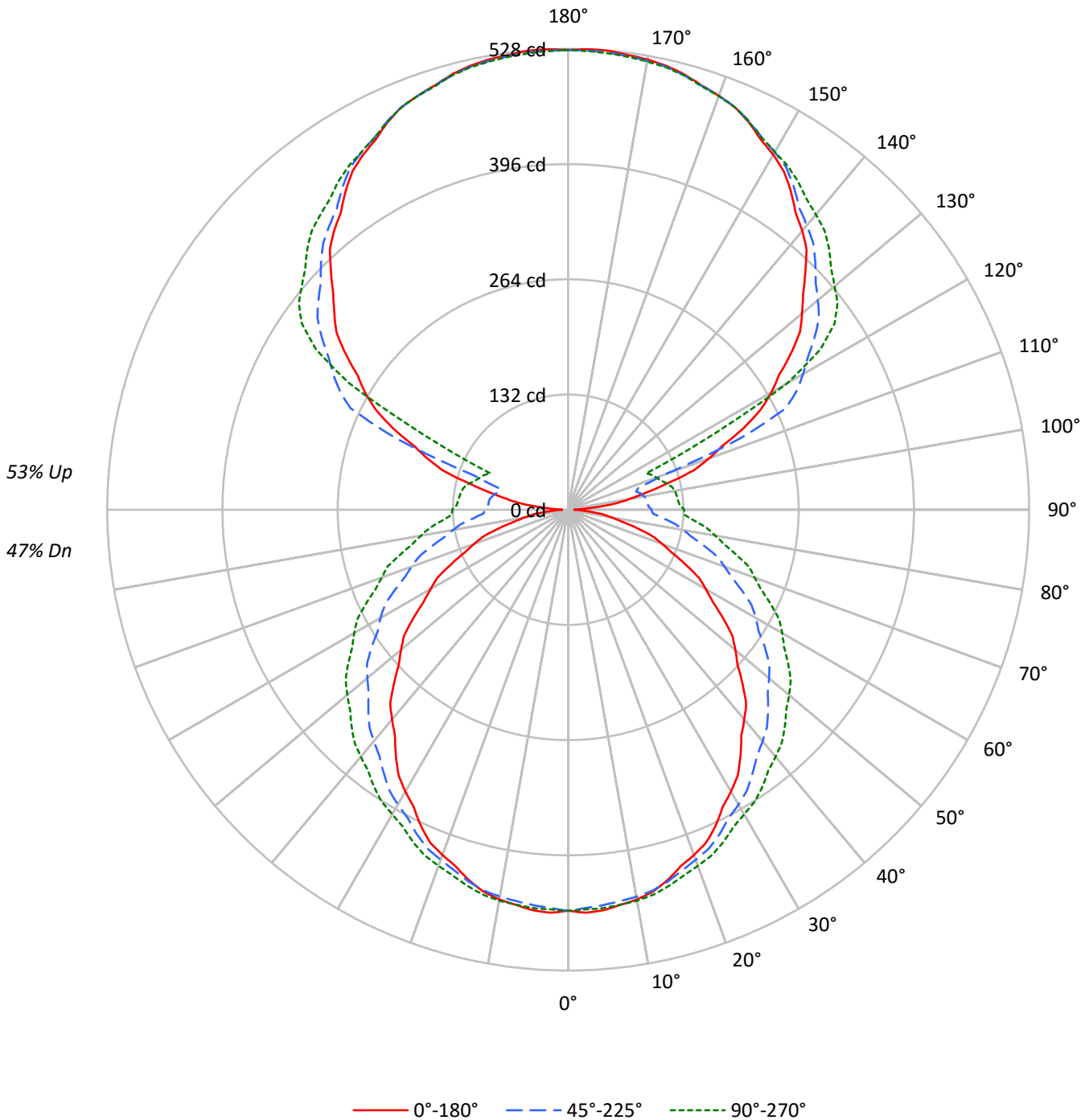
Lumens per Lamp: N/A
Luminaire Lumens: 3297.9 lumens
Efficiency: N/A
Efficacy: 109.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

Input Watts (W): 30.2
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





TEST NUMBER: P331497-940

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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	106	106	106	106	98	98	98	98	82	82	82	67	67	67	54	54	54	47				47
1	96	91	86	82	88	83	80	76	70	67	64	57	55	53	45	44	42				37	
2	87	78	72	66	79	72	66	61	60	56	52	49	46	43	39	37	35				30	
3	79	69	61	54	72	63	56	51	53	47	43	43	39	36	34	31	29				25	
4	72	60	52	46	65	56	48	42	46	41	36	38	34	30	30	27	24				21	
5	66	54	45	39	60	49	42	36	41	35	31	34	29	26	27	24	21				18	
6	60	48	39	33	55	44	37	31	37	31	27	31	26	23	24	21	18				15	
7	56	43	35	29	51	40	32	27	34	28	23	28	23	20	22	19	16				13	
8	52	39	31	26	47	36	29	24	30	25	21	25	21	18	20	17	14				12	
9	48	36	28	23	44	33	26	21	28	22	18	23	19	16	19	15	13				11	
10	45	33	25	20	41	30	23	19	26	20	17	21	17	14	17	14	12				10	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7419	7419	7419
5°	7455	7143	7115
10°	7408	6931	6854
15°	7306	6708	6577
20°	7177	6468	6312
25°	7050	6237	6072
30°	6870	5999	5829
35°	6689	5771	5659
40°	6498	5576	5488
45°	6317	5402	5343
50°	6123	5242	5199
55°	5916	5073	5052
60°	5666	4897	4897
65°	5405	4692	4714
70°	5117	4470	4516
75°	4741	4251	4334
80°	4149	4028	4148
85°	3591	3837	4006



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	43.5	1.3
10°-20°	124.9	3.8
20°-30°	189.2	5.7
30°-40°	230.5	7.0
40°-50°	247.9	7.5
50°-60°	240.8	7.3
60°-70°	210.2	6.4
70°-80°	161.8	4.9
80°-90°	109.9	3.3
90°-100°	92.4	2.8
100°-110°	119.1	3.6
110°-120°	208.3	6.3
120°-130°	304.4	9.2
130°-140°	310.8	9.4
140°-150°	282.5	8.6
150°-160°	225.9	6.9
160°-170°	145.6	4.4
170°-180°	50.1	1.5
0°-30°	357.6	10.8
0°-40°	588.1	17.8
0°-60°	1076.8	32.6
0°-90°	1558.8	47.3
90°-120°	419.8	12.7
90°-150°	1317.5	40.0
90°-180°	1739.0	52.7
0°-180°	3297.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	460	460	460	460	460	
5°	461	459	455	459	458	44
15°	440	441	441	446	446	124
25°	400	404	410	418	420	184
35°	344	356	368	382	388	215
45°	282	301	324	344	351	218
55°	216	241	275	298	308	193
65°	148	181	220	246	256	147
75°	82	119	162	189	199	87
85°	24	65	108	135	145	26
90°	7	50	96	123	133	6
95°	30	50	92	118	126	35
105°	119	144	80	107	117	128
115°	222	237	275	126	98	218
125°	311	317	345	365	372	278
135°	384	390	400	417	423	297
145°	445	445	451	457	459	278
155°	490	487	491	493	490	226
165°	516	514	515	517	515	146
175°	528	525	526	528	525	50
180°	527	527	527	527	527	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5
2.5°	462.2	461.8	461.5	461.1	460.7	460.1	459.3	458.5	457.7	456.8	457.4
5°	460.8	460.4	459.9	459.5	459.1	458.4	457.5	456.6	455.8	454.9	455.8
7.5°	456.7	456.4	456.1	455.8	455.6	455.0	454.3	453.7	453.0	452.3	453.3
10°	453.5	453.3	452.9	452.6	452.4	452.0	451.6	451.1	450.7	450.2	451.4
12.5°	448.2	448.3	448.4	448.4	448.4	448.3	448.0	447.6	447.3	447.0	448.2
15°	439.5	439.8	440.1	440.4	440.7	440.9	440.9	440.9	440.9	440.9	442.2
17.5°	428.4	429.0	429.6	430.3	430.9	431.4	431.9	432.3	432.8	433.3	434.6
20°	420.9	421.6	422.4	423.1	423.8	424.5	425.1	425.7	426.3	426.9	428.5
22.5°	412.9	413.8	414.6	415.4	416.3	417.1	418.0	418.8	419.6	420.5	422.1
25°	399.6	400.6	401.6	402.7	403.7	404.9	406.3	407.6	408.9	410.2	412.0
27.5°	383.6	385.3	387.0	388.7	390.3	392.0	393.5	395.1	396.6	398.2	400.5
30°	372.9	374.9	376.7	378.7	380.7	382.5	384.5	386.4	388.3	390.2	392.6
32.5°	361.2	363.4	365.5	367.7	369.9	372.1	374.3	376.7	378.9	381.2	383.9
35°	344.3	346.8	349.4	351.9	354.4	357.0	359.8	362.7	365.4	368.3	371.5
37.5°	325.9	328.9	331.7	334.7	337.5	340.8	344.5	348.0	351.7	355.3	359.0
40°	313.7	316.9	320.2	323.4	326.7	330.3	334.3	338.3	342.3	346.3	350.2
42.5°	301.9	305.2	308.4	311.7	315.0	318.9	323.5	328.1	332.7	337.2	341.4
45°	282.4	286.3	290.3	294.4	298.4	302.9	308.1	313.3	318.5	323.7	328.2
47.5°	263.1	267.4	271.8	276.1	280.4	285.7	291.8	297.8	303.9	310.0	314.8
50°	249.8	254.3	259.0	263.5	268.0	273.7	280.4	287.0	293.7	300.3	305.4
52.5°	236.9	241.7	246.6	251.5	256.3	262.2	269.2	276.2	283.2	290.3	295.3
55°	216.4	221.8	227.1	232.4	237.7	244.2	252.0	259.7	267.3	275.0	280.4
57.5°	196.2	202.2	208.2	214.2	220.3	227.1	235.0	242.8	250.7	258.5	264.3
60°	181.8	188.2	194.6	200.9	207.2	214.6	223.1	231.5	240.0	248.4	254.0
62.5°	169.0	175.6	182.3	188.9	195.5	203.0	211.3	219.8	228.3	236.7	242.6
65°	147.8	155.1	162.4	169.6	176.8	184.9	193.6	202.3	211.1	219.8	225.9
67.5°	128.4	136.0	143.6	151.1	158.7	166.9	175.9	184.9	193.8	202.7	208.8
70°	114.6	122.3	129.9	137.6	145.3	153.7	162.9	172.1	181.3	190.5	196.8
72.5°	101.7	109.7	117.6	125.6	133.5	142.1	151.4	160.7	170.0	179.2	185.6
75°	81.9	90.2	98.4	106.7	115.0	123.9	133.4	142.9	152.4	161.8	168.2
77.5°	62.8	71.4	80.1	88.7	97.5	106.6	116.2	125.8	135.5	145.1	151.4
80°	49.9	58.9	68.0	77.0	86.1	95.4	105.0	114.6	124.2	133.8	140.1
82.5°	39.3	48.2	57.1	66.0	74.9	84.3	94.0	103.7	113.4	123.2	129.4
85°	24.0	33.2	42.4	51.5	60.6	70.0	79.5	88.9	98.4	107.9	114.1
87.5°	13.1	22.1	31.1	40.1	49.1	58.5	68.0	77.7	87.3	96.9	103.0
90°	7.0	16.6	26.0	35.6	45.1	54.9	65.1	75.3	85.3	95.5	101.8
92.5°	13.8	21.8	29.6	37.5	45.5	54.1	63.6	73.0	82.5	91.9	98.0
95°	30.1	34.2	38.4	42.6	46.7	53.6	63.0	72.5	81.9	91.5	97.5
97.5°	53.9	52.2	50.5	48.8	47.1	51.2	61.1	71.0	80.9	90.8	96.6
100°	72.1	66.0	59.8	53.8	47.6	49.4	59.1	68.8	78.6	88.3	94.4
102.5°	91.8	94.3	96.8	99.3	101.9	101.2	97.2	93.2	89.2	85.2	91.4
105°	119.2	126.0	132.9	139.7	146.5	142.2	126.8	111.4	95.9	80.5	86.7
107.5°	151.3	156.8	162.3	167.7	173.3	165.8	145.4	125.1	104.7	84.4	88.4
110°	171.5	176.2	181.0	185.7	190.5	184.2	167.0	149.8	132.5	115.3	111.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	191.0	195.1	199.1	203.2	207.2	209.7	210.5	211.4	212.2	213.1	187.0
115°	221.9	224.9	227.9	231.0	234.1	240.0	248.8	257.5	266.4	275.1	240.3
117.5°	248.7	251.4	254.0	256.7	259.4	264.5	272.2	279.7	287.3	295.0	289.9
120°	268.8	270.6	272.5	274.4	276.3	280.9	288.4	295.8	303.2	310.7	315.8
122.5°	285.9	287.4	289.0	290.6	292.1	296.6	303.8	311.0	318.3	325.5	330.1
125°	311.2	312.3	313.4	314.5	315.6	319.3	325.7	332.0	338.3	344.7	349.3
127.5°	334.7	335.8	336.9	338.0	339.0	342.1	347.1	352.1	357.1	362.1	366.7
130°	349.7	350.9	352.1	353.3	354.5	357.1	361.1	365.2	369.3	373.3	377.8
132.5°	364.9	366.0	366.9	367.9	369.0	371.1	374.4	377.7	381.1	384.4	388.7
135°	384.1	385.4	386.8	388.2	389.5	391.3	393.5	395.8	398.1	400.3	404.2
137.5°	404.1	405.0	406.0	406.9	407.8	409.0	410.5	412.1	413.6	415.1	418.7
140°	417.2	417.8	418.3	418.8	419.4	420.3	421.5	422.7	423.9	425.2	428.3
142.5°	428.2	428.6	429.2	429.6	430.1	430.9	431.9	433.1	434.3	435.3	437.9
145°	444.8	444.7	444.6	444.5	444.4	445.1	446.6	448.0	449.4	450.8	452.4
147.5°	459.8	459.5	459.1	458.9	458.5	459.1	460.5	461.9	463.3	464.8	465.3
150°	469.6	469.0	468.3	467.8	467.2	467.5	469.0	470.3	471.6	473.0	473.5
152.5°	477.8	477.2	476.4	475.8	475.1	475.5	476.7	478.0	479.3	480.6	481.1
155°	489.7	489.0	488.2	487.5	486.7	486.9	487.9	488.8	489.9	490.9	491.4
157.5°	499.1	498.5	497.8	497.2	496.6	496.6	497.3	498.0	498.7	499.4	500.0
160°	504.6	504.1	503.6	503.1	502.6	502.6	503.1	503.6	504.1	504.6	505.2
162.5°	509.5	509.0	508.5	508.0	507.5	507.5	507.8	508.3	508.7	509.2	509.8
165°	516.0	515.6	515.1	514.5	514.0	513.9	514.2	514.4	514.7	514.9	515.5
167.5°	520.9	520.4	520.0	519.4	518.9	518.8	519.0	519.2	519.5	519.7	520.3
170°	523.7	523.2	522.6	522.2	521.7	521.5	521.7	521.8	522.0	522.2	522.7
172.5°	525.5	525.0	524.5	524.0	523.4	523.3	523.4	523.6	523.8	524.0	524.6
175°	527.9	527.3	526.6	526.1	525.5	525.3	525.5	525.7	525.8	525.9	526.6
177.5°	528.2	527.8	527.3	526.8	526.4	526.1	526.2	526.3	526.4	526.4	526.9
180°	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	459.5	459.5	459.5	459.5	459.5	459.5	459.5	459.5
2.5°	458.1	458.6	459.2	459.4	459.1	459.0	458.7	458.4
5°	456.6	457.5	458.4	458.8	458.6	458.5	458.3	458.2
7.5°	454.4	455.5	456.6	457.0	456.9	456.7	456.6	456.5
10°	452.5	453.7	455.0	455.5	455.3	455.1	455.0	454.9
12.5°	449.3	450.6	451.7	452.3	452.1	451.9	451.8	451.7
15°	443.5	444.9	446.2	446.7	446.7	446.5	446.3	446.2
17.5°	436.0	437.5	438.8	439.5	439.5	439.5	439.5	439.5
20°	430.2	431.8	433.4	434.2	434.2	434.2	434.2	434.2
22.5°	423.7	425.3	427.0	427.9	428.2	428.4	428.6	428.9
25°	413.8	415.5	417.3	418.5	418.9	419.4	419.8	420.3
27.5°	402.8	405.0	407.2	408.5	408.8	409.2	409.5	409.8
30°	395.0	397.3	399.8	401.1	401.5	402.0	402.4	402.9
32.5°	386.6	389.3	392.1	393.9	394.7	395.5	396.3	397.1
35°	374.8	378.1	381.3	383.4	384.5	385.5	386.6	387.6
37.5°	362.6	366.2	369.8	372.1	373.3	374.3	375.4	376.6
40°	354.0	357.8	361.7	364.3	365.6	366.9	368.3	369.6
42.5°	345.6	349.8	354.0	356.9	358.1	359.4	360.8	362.1
45°	332.9	337.4	342.0	345.0	346.5	348.0	349.5	351.0
47.5°	319.5	324.3	329.1	332.3	333.9	335.6	337.2	338.9
50°	310.4	315.4	320.5	323.8	325.5	327.1	328.7	330.3
52.5°	300.5	305.7	310.9	314.2	316.0	317.8	319.5	321.3
55°	285.7	291.1	296.3	300.0	301.9	303.8	305.8	307.6
57.5°	270.0	275.7	281.5	285.3	287.3	289.3	291.2	293.2
60°	259.7	265.3	270.9	274.7	276.8	278.9	281.0	283.0
62.5°	248.6	254.6	260.6	264.6	266.5	268.5	270.5	272.4
65°	231.9	238.0	244.1	248.1	249.9	251.9	253.8	255.7
67.5°	215.0	221.1	227.2	231.3	233.3	235.3	237.4	239.3
70°	203.2	209.6	215.9	220.0	221.8	223.6	225.3	227.1
72.5°	191.8	198.0	204.3	208.5	210.5	212.7	214.8	217.0
75°	174.6	180.9	187.3	191.5	193.3	195.3	197.2	199.1
77.5°	157.7	164.1	170.4	174.6	176.6	178.7	180.8	182.9
80°	146.3	152.5	158.7	162.8	165.0	167.0	169.1	171.1
82.5°	135.6	141.9	148.0	152.1	154.1	156.0	158.0	160.0
85°	120.3	126.5	132.8	136.9	138.9	141.1	143.1	145.2
87.5°	109.1	115.3	121.4	125.4	127.3	129.3	131.2	133.1
90°	108.3	114.6	120.9	125.0	127.0	128.9	130.9	132.9
92.5°	104.0	110.0	116.0	120.0	121.9	123.8	125.6	127.5
95°	103.5	109.6	115.7	119.5	121.2	122.9	124.6	126.3
97.5°	102.4	108.2	114.0	117.9	119.7	121.5	123.4	125.2
100°	100.6	106.7	112.9	116.9	118.7	120.5	122.3	124.1
102.5°	97.6	103.9	110.1	114.2	116.1	118.0	119.8	121.6
105°	92.7	98.9	105.0	109.0	110.9	113.0	114.9	116.9
107.5°	92.4	96.4	100.5	103.4	105.4	107.4	109.3	111.3
110°	107.8	104.2	100.4	99.5	101.5	103.4	105.4	107.4



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CATALOG NUMBER: S122DIW-S485D435U940-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	160.8	134.6	108.4	96.3	98.3	100.1	102.0	104.0
115°	205.5	170.8	136.0	116.4	111.9	107.5	103.0	98.5
117.5°	284.7	279.6	274.6	262.7	244.2	225.7	207.1	188.6
120°	321.0	326.2	331.3	329.0	319.1	309.3	299.5	289.8
122.5°	334.7	339.4	344.0	345.9	345.1	344.3	343.4	342.6
125°	353.9	358.5	363.0	366.1	367.7	369.3	370.9	372.5
127.5°	371.2	375.8	380.3	383.3	384.6	385.9	387.3	388.7
130°	382.3	386.7	391.2	394.0	395.1	396.2	397.3	398.4
132.5°	392.9	397.1	401.4	404.0	405.1	406.2	407.3	408.4
135°	408.2	412.1	416.1	418.6	419.5	420.6	421.6	422.7
137.5°	422.2	425.7	429.3	431.4	432.1	432.8	433.5	434.3
140°	431.4	434.5	437.7	439.4	440.0	440.4	440.9	441.3
142.5°	440.5	443.1	445.7	447.2	447.5	447.9	448.3	448.5
145°	453.9	455.3	456.8	457.7	458.0	458.3	458.6	459.0
147.5°	465.8	466.5	467.0	467.3	467.3	467.3	467.3	467.3
150°	474.0	474.5	475.0	475.1	474.7	474.2	473.8	473.4
152.5°	481.6	482.1	482.7	482.6	482.1	481.5	480.9	480.4
155°	492.0	492.4	492.9	492.8	492.1	491.5	490.8	490.2
157.5°	500.6	501.1	501.8	501.7	501.1	500.3	499.7	499.1
160°	505.6	506.1	506.7	506.6	506.0	505.4	504.8	504.3
162.5°	510.3	511.0	511.5	511.4	510.7	510.0	509.3	508.5
165°	516.1	516.7	517.3	517.3	516.7	516.1	515.5	514.9
167.5°	520.9	521.5	522.1	522.0	521.2	520.5	519.7	519.0
170°	523.3	524.0	524.5	524.4	523.7	522.9	522.2	521.4
172.5°	525.1	525.8	526.4	526.3	525.5	524.8	524.0	523.3
175°	527.2	527.7	528.3	528.2	527.4	526.6	525.7	524.9
177.5°	527.4	527.8	528.3	528.2	527.6	527.0	526.4	525.8
180°	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7

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