

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: P331587-940

Luminaire Tested: **S122DIW-S1005D435U940-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331587-940  
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-S1005D435U940-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 1005 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: 5142.2 lumens  
Efficiency: N/A  
Efficacy: 98.1 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: Semi-Direct

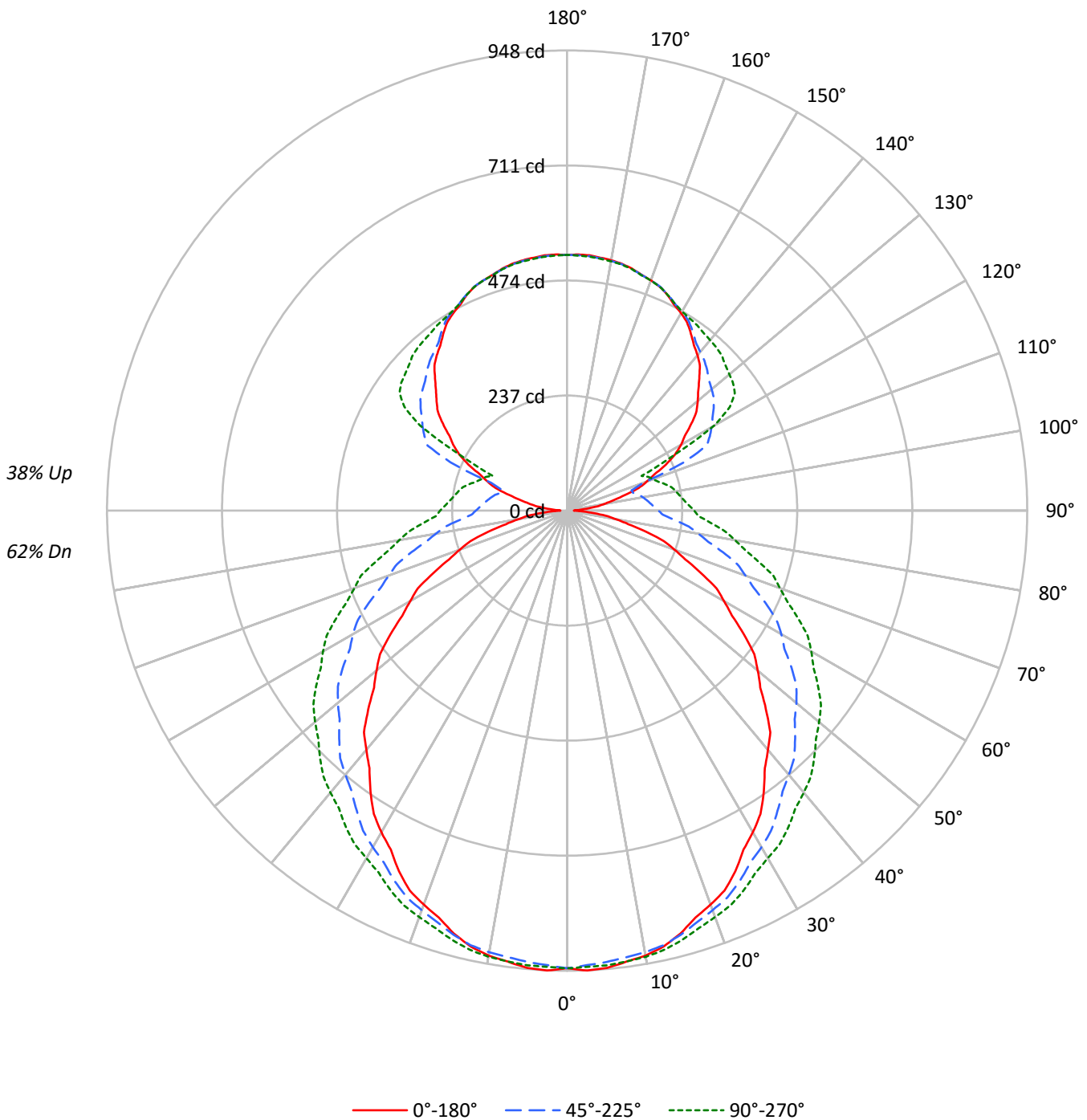
Input Watts (W): 52.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67
1	99	93	89	85	92	87	83	80	76	73	70	66	64	61	57	55	53
2	89	81	74	68	83	75	69	64	66	61	57	57	53	50	49	46	43
3	81	70	62	55	75	66	58	53	57	52	47	50	45	41	43	39	36
4	74	62	53	46	68	58	50	44	51	44	39	44	39	35	38	34	31
5	68	55	46	40	63	52	44	38	45	39	34	39	34	30	34	30	26
6	62	49	40	34	58	46	38	32	41	34	29	35	30	26	31	26	23
7	57	44	36	30	53	42	34	28	37	30	26	32	27	23	28	24	20
8	53	40	32	26	50	38	30	25	33	27	23	29	24	20	25	21	18
9	50	37	29	23	46	35	27	22	31	25	20	27	22	18	23	19	16
10	46	34	26	21	43	32	25	20	28	22	18	25	20	16	22	18	15

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

	0°	45°	90°
0°	15224	15224	15224
5°	15300	14656	14600
10°	15203	14222	14063
15°	14994	13763	13496
20°	14728	13272	12952
25°	14466	12799	12457
30°	14098	12312	11962
35°	13725	11842	11611
40°	13332	11442	11262
45°	12960	11082	10962
50°	12561	10760	10668
55°	12143	10411	10368
60°	11628	10049	10051
65°	11095	9625	9675
70°	10498	9170	9268
75°	9730	8725	8894
80°	8523	8267	8514
85°	7361	7873	8218



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	89.3	1.7
10°-20°	256.2	5.0
20°-30°	388.3	7.6
30°-40°	472.9	9.2
40°-50°	508.8	9.9
50°-60°	494.1	9.6
60°-70°	431.4	8.4
70°-80°	332.1	6.5
80°-90°	224.2	4.4
90°-100°	171.1	3.3
100°-110°	176.6	3.4
110°-120°	246.3	4.8
120°-130°	325.6	6.3
130°-140°	319.7	6.2
140°-150°	284.0	5.5
150°-160°	225.9	4.4
160°-170°	145.6	2.8
170°-180°	50.1	1.0
0°-30°	733.8	14.3
0°-40°	1206.7	23.5
0°-60°	2209.5	43.0
0°-90°	3197.2	62.2
90°-120°	594.0	11.6
90°-150°	1523.4	29.6
90°-180°	1945.0	37.8
0°-180°	5142.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	943	943	943	943	943	
5°	946	941	933	941	940	90
15°	902	904	905	916	916	254
25°	820	830	842	858	862	377
35°	706	730	756	785	795	441
45°	579	617	664	705	720	447
55°	444	495	564	612	631	397
65°	303	371	451	505	525	301
75°	168	245	332	389	409	178
85°	49	134	221	277	298	53
90°	14	98	188	242	262	10
95°	36	89	172	224	242	39
105°	123	169	141	191	209	132
115°	225	249	317	188	169	221
125°	313	320	368	407	422	279
135°	385	392	408	439	451	297
145°	445	445	451	461	467	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	



TEST NUMBER: P331587-940

CATALOG NUMBER: S122DIW-S1005D435U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9
2.5°	948.4	947.7	946.9	946.2	945.5	944.2	942.5	940.8	939.1	937.5	938.7
5°	945.7	944.8	943.9	942.9	942.0	940.7	938.9	937.0	935.2	933.4	935.2
7.5°	937.2	936.6	935.9	935.4	934.8	933.8	932.4	930.9	929.6	928.2	930.3
10°	930.7	930.1	929.4	928.8	928.2	927.5	926.6	925.6	924.7	923.8	926.2
12.5°	919.7	919.8	920.0	920.1	920.2	919.9	919.3	918.6	917.9	917.2	919.7
15°	902.0	902.6	903.1	903.7	904.4	904.6	904.6	904.6	904.6	904.6	907.4
17.5°	879.0	880.3	881.5	882.8	884.0	885.2	886.2	887.2	888.1	889.1	892.0
20°	863.7	865.2	866.7	868.3	869.8	871.1	872.4	873.5	874.8	876.0	879.3
22.5°	847.3	849.0	850.8	852.6	854.3	856.0	857.7	859.4	861.1	862.8	866.2
25°	819.9	822.1	824.2	826.3	828.5	830.9	833.6	836.3	839.1	841.8	845.4
27.5°	787.1	790.6	794.1	797.5	801.0	804.3	807.5	810.7	814.0	817.3	821.8
30°	765.3	769.2	773.2	777.1	781.0	785.1	789.0	792.9	796.8	800.8	805.7
32.5°	741.2	745.6	750.1	754.6	758.9	763.5	768.2	772.8	777.6	782.2	787.8
35°	706.5	711.7	716.8	722.0	727.2	732.6	738.4	744.1	749.9	755.7	762.4
37.5°	668.8	674.8	680.7	686.6	692.6	699.3	706.8	714.3	721.8	729.2	736.6
40°	643.6	650.3	657.0	663.7	670.4	677.8	686.0	694.2	702.4	710.6	718.5
42.5°	619.6	626.2	632.9	639.6	646.3	654.3	663.8	673.2	682.6	692.1	700.6
45°	579.4	587.6	595.8	604.0	612.2	621.6	632.3	642.9	653.5	664.1	673.6
47.5°	539.8	548.8	557.7	566.6	575.5	586.2	598.7	611.1	623.6	636.0	645.9
50°	512.5	521.9	531.3	540.7	550.1	561.7	575.3	589.0	602.6	616.4	626.7
52.5°	486.2	496.1	506.0	515.9	525.8	538.0	552.3	566.8	581.1	595.6	606.1
55°	444.2	455.0	466.0	477.0	487.9	501.2	517.0	532.8	548.6	564.4	575.3
57.5°	402.6	414.9	427.2	439.6	451.9	466.1	482.2	498.3	514.4	530.5	542.2
60°	373.1	386.1	399.2	412.2	425.3	440.5	457.8	475.1	492.4	509.7	521.3
62.5°	346.9	360.3	373.9	387.4	401.0	416.4	433.7	451.0	468.4	485.7	497.9
65°	303.4	318.3	333.1	348.0	362.9	379.3	397.3	415.1	433.0	450.9	463.4
67.5°	263.5	279.0	294.5	310.1	325.7	342.6	361.0	379.3	397.6	416.0	428.6
70°	235.1	250.8	266.6	282.4	298.2	315.5	334.4	353.2	372.0	390.8	403.9
72.5°	208.8	225.1	241.4	257.6	273.9	291.6	310.7	329.8	348.8	367.9	380.7
75°	168.1	185.1	202.1	219.1	236.1	254.3	273.8	293.2	312.6	332.1	345.1
77.5°	128.8	146.5	164.3	182.1	199.9	218.6	238.4	258.2	277.9	297.7	310.7
80°	102.5	121.0	139.6	158.1	176.6	195.7	215.4	235.2	254.9	274.6	287.4
82.5°	80.6	98.9	117.2	135.5	153.7	172.9	192.9	212.9	232.8	252.8	265.6
85°	49.2	68.0	86.9	105.7	124.5	143.7	163.1	182.5	202.0	221.4	234.2
87.5°	26.8	45.1	63.4	81.7	100.0	119.0	138.5	158.1	177.6	197.2	209.7
90°	14.1	32.6	51.1	69.6	88.2	107.5	127.7	147.8	167.9	188.0	200.5
92.5°	20.2	36.6	52.9	69.2	85.5	103.2	122.3	141.3	160.3	179.4	191.5
95°	35.7	47.2	58.7	70.2	81.6	96.8	115.6	134.4	153.2	172.0	184.0
97.5°	58.8	63.6	68.4	73.2	78.0	89.9	108.7	127.6	146.4	165.3	176.9
100°	77.0	76.7	76.3	75.9	75.5	84.6	103.1	121.5	139.9	158.4	170.3
102.5°	96.0	103.9	111.6	119.5	127.2	133.4	137.9	142.4	146.9	151.3	163.2
105°	122.7	134.0	145.3	156.8	168.1	170.1	162.7	155.4	148.1	140.8	152.3
107.5°	154.7	163.7	172.8	181.9	191.0	189.3	176.6	164.1	151.5	138.8	148.1
110°	174.3	182.2	190.0	197.9	205.7	204.8	195.3	185.7	176.0	166.5	167.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	193.9	200.5	207.1	213.8	220.5	227.9	236.0	244.2	252.3	260.4	239.2
115°	224.6	229.4	234.2	239.0	243.7	254.0	269.8	285.6	301.4	317.2	287.0
117.5°	250.7	254.6	258.3	262.2	265.9	274.9	289.0	303.1	317.2	331.3	330.7
120°	270.9	273.4	275.9	278.3	280.8	288.9	302.6	316.3	329.9	343.6	353.1
122.5°	287.9	289.8	291.6	293.5	295.2	302.7	315.8	328.9	342.0	355.0	363.9
125°	312.6	313.7	314.8	315.9	317.0	323.2	334.6	345.9	357.2	368.5	377.3
127.5°	336.2	337.1	338.0	338.9	339.8	344.8	353.8	362.8	371.9	380.9	389.3
130°	351.1	352.1	353.2	354.3	355.3	359.4	366.8	374.1	381.4	388.7	396.9
132.5°	366.3	367.2	368.0	368.9	369.7	373.1	378.9	384.8	390.7	396.5	404.3
135°	384.8	386.1	387.5	388.9	390.2	392.8	396.5	400.4	404.2	408.0	415.2
137.5°	404.8	405.7	406.6	407.5	408.4	409.9	412.1	414.3	416.5	418.7	425.2
140°	417.9	418.3	418.7	419.1	419.5	420.4	422.0	423.5	425.0	426.6	432.2
142.5°	428.9	429.3	429.5	429.8	430.2	430.9	432.1	433.3	434.4	435.7	440.2
145°	444.8	444.7	444.6	444.5	444.4	445.1	446.6	448.0	449.4	450.8	453.3
147.5°	459.8	459.5	459.1	458.9	458.5	459.1	460.5	461.9	463.3	464.8	465.5
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°	942.9	942.9	942.9	942.9	942.9	942.9	942.9	942.9
2.5°	939.9	941.1	942.4	942.7	942.2	941.7	941.2	940.8
5°	937.0	938.9	940.7	941.4	941.1	940.8	940.5	940.2
7.5°	932.6	934.8	936.9	937.9	937.5	937.3	936.9	936.7
10°	928.6	931.1	933.5	934.6	934.2	934.0	933.7	933.4
12.5°	922.1	924.5	926.9	928.0	927.7	927.4	927.1	926.8
15°	910.2	912.8	915.6	916.9	916.5	916.2	915.9	915.6
17.5°	894.8	897.7	900.5	902.0	902.0	902.0	902.0	902.0
20°	882.6	886.0	889.3	891.0	891.0	891.0	891.0	891.0
22.5°	869.5	872.9	876.2	878.2	878.6	879.1	879.6	880.1
25°	849.1	852.7	856.4	858.6	859.6	860.5	861.4	862.3
27.5°	826.4	831.1	835.7	838.3	839.0	839.6	840.3	841.0
30°	810.6	815.4	820.3	823.1	824.0	824.9	825.9	826.8
32.5°	793.4	799.0	804.6	808.2	809.9	811.5	813.2	814.8
35°	769.1	775.8	782.5	786.8	789.0	791.1	793.3	795.3
37.5°	744.0	751.4	758.8	763.7	765.9	768.2	770.4	772.7
40°	726.4	734.3	742.2	747.5	750.3	753.0	755.7	758.5
42.5°	709.3	717.9	726.6	732.2	734.9	737.7	740.4	743.2
45°	683.0	692.4	701.8	708.0	711.1	714.1	717.1	720.1
47.5°	655.7	665.5	675.4	682.0	685.3	688.7	692.0	695.4
50°	636.9	647.3	657.6	664.5	667.8	671.1	674.5	677.8
52.5°	616.7	627.2	637.8	644.9	648.5	652.1	655.7	659.2
55°	586.3	597.2	608.1	615.5	619.5	623.5	627.4	631.3
57.5°	554.1	565.9	577.7	585.5	589.5	593.5	597.5	601.5
60°	532.8	544.4	555.9	563.8	568.0	572.3	576.6	580.8
62.5°	510.2	522.5	534.8	542.9	546.9	550.9	554.9	558.9
65°	475.9	488.3	500.8	509.0	512.9	516.8	520.8	524.8
67.5°	441.1	453.7	466.3	474.7	478.8	482.9	487.1	491.2
70°	417.0	430.0	443.1	451.4	455.0	458.7	462.4	466.0
72.5°	393.5	406.4	419.1	427.8	432.1	436.5	440.9	445.2
75°	358.2	371.2	384.3	392.8	396.7	400.7	404.7	408.6
77.5°	323.6	336.6	349.6	358.3	362.5	366.8	371.0	375.2
80°	300.1	313.0	325.7	334.2	338.5	342.7	347.0	351.2
82.5°	278.3	291.1	303.8	312.2	316.2	320.2	324.2	328.2
85°	246.9	259.7	272.4	280.9	285.2	289.4	293.6	297.9
87.5°	222.1	234.6	247.1	255.3	259.2	263.1	267.1	271.0
90°	213.1	225.7	238.3	246.5	250.3	254.1	257.9	261.7
92.5°	203.7	215.8	227.9	235.9	239.6	243.3	247.1	250.8
95°	195.9	207.9	219.9	227.7	231.2	234.8	238.4	241.8
97.5°	188.4	200.0	211.6	219.3	222.9	226.6	230.3	234.0
100°	182.2	194.1	206.1	213.7	217.2	220.8	224.3	227.8
102.5°	175.1	187.0	198.9	206.5	210.2	213.7	217.3	220.9
105°	163.9	175.5	187.0	194.7	198.3	202.0	205.7	209.4
107.5°	157.4	166.7	175.8	182.4	186.0	189.8	193.4	197.1
110°	169.0	170.2	171.5	173.9	177.6	181.3	184.9	188.6





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CATALOG NUMBER: S122DIW-S1005D435U940-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	218.0	196.8	175.6	166.8	170.4	174.1	177.6	181.3
115°	256.9	226.9	196.7	180.3	177.5	174.8	172.0	169.2
117.5°	330.3	329.8	329.3	320.6	303.6	286.7	269.7	252.8
120°	362.7	372.2	381.7	382.4	374.3	366.2	358.1	350.0
122.5°	372.7	381.7	390.5	395.3	395.9	396.5	397.2	397.8
125°	386.1	394.9	403.7	409.6	412.6	415.5	418.6	421.5
127.5°	397.7	406.1	414.6	420.1	422.8	425.5	428.3	431.0
130°	405.2	413.4	421.6	426.9	429.2	431.6	433.9	436.2
132.5°	412.1	420.0	427.8	432.9	435.2	437.7	440.0	442.3
135°	422.4	429.6	436.8	441.6	443.9	446.1	448.4	450.7
137.5°	431.6	438.0	444.4	448.5	450.3	452.0	453.8	455.6
140°	437.8	443.4	449.1	452.5	454.0	455.3	456.7	458.2
142.5°	444.8	449.4	454.0	456.8	458.0	459.1	460.3	461.5
145°	455.7	458.2	460.6	462.3	463.4	464.5	465.6	466.6
147.5°	466.1	466.8	467.5	468.0	468.4	468.8	469.1	469.5
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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