

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: P331587-830

Luminaire Tested: **S122DIW-S1005D435U830-4F0-1E-UDD-D**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331587-830
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-S1005D435U830-4F0-1E-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: 5435.4 lumens
Efficiency: N/A
Efficacy: 103.7 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

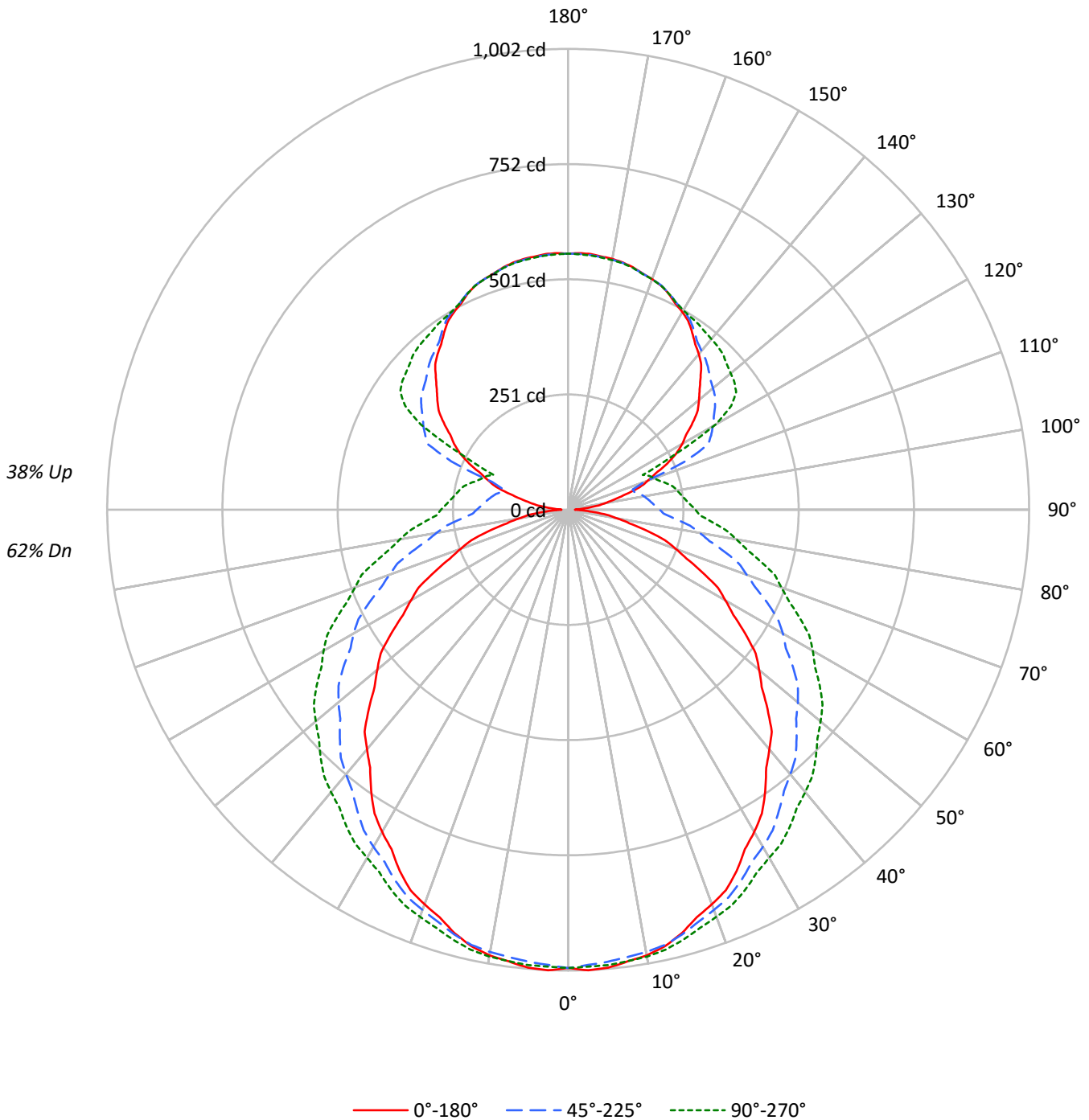
Input Watts (W): 52.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	110	110	110	110	103	103	103	103	90	90	90	78	78	78	67	67	67	62
1	99	93	89	85	92	87	83	80	76	73	70	66	64	61	57	55	53	49
2	89	81	74	68	83	75	69	64	66	61	57	57	53	50	49	46	43	39
3	81	70	62	55	75	66	58	53	57	52	47	50	45	41	43	39	36	32
4	74	62	53	46	68	58	50	44	51	44	39	44	39	35	38	34	31	27
5	68	55	46	40	63	52	44	38	45	39	34	39	34	30	34	30	26	23
6	62	49	40	34	58	46	38	32	41	34	29	35	30	26	31	26	23	20
7	57	44	36	30	53	42	34	28	37	30	26	32	27	23	28	24	20	18
8	53	40	32	26	50	38	30	25	33	27	23	29	24	20	25	21	18	16
9	50	37	29	23	46	35	27	22	31	25	20	27	22	18	23	19	16	14
10	46	34	26	21	43	32	25	20	28	22	18	25	20	16	22	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16091	16091	16091
5°	16172	15491	15432
10°	16069	15033	14865
15°	15848	14548	14266
20°	15567	14030	13691
25°	15292	13528	13167
30°	14902	13015	12643
35°	14508	12517	12274
40°	14092	12094	11903
45°	13700	11715	11587
50°	13277	11373	11276
55°	12834	11004	10959
60°	12292	10623	10624
65°	11728	10173	10227
70°	11096	9693	9797
75°	10286	9222	9401
80°	9006	8739	9001
85°	7780	8321	8687



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.4	1.7
10°-20°	270.8	5.0
20°-30°	410.4	7.6
30°-40°	499.9	9.2
40°-50°	537.8	9.9
50°-60°	522.2	9.6
60°-70°	456.0	8.4
70°-80°	351.0	6.5
80°-90°	237.0	4.4
90°-100°	180.9	3.3
100°-110°	186.6	3.4
110°-120°	260.3	4.8
120°-130°	344.2	6.3
130°-140°	337.9	6.2
140°-150°	300.2	5.5
150°-160°	238.8	4.4
160°-170°	153.9	2.8
170°-180°	53.0	1.0
0°-30°	775.7	14.3
0°-40°	1275.5	23.5
0°-60°	2335.5	43.0
0°-90°	3379.5	62.2
90°-120°	627.8	11.6
90°-150°	1610.2	29.6
90°-180°	2056.0	37.8
0°-180°	5435.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	997	997	997	997	997	
5°	1000	995	987	995	994	95
15°	953	956	956	968	968	268
25°	867	877	890	906	911	398
35°	747	772	799	829	841	467
45°	612	652	702	745	761	473
55°	470	523	596	647	667	420
65°	321	392	477	534	555	318
75°	178	259	351	411	432	188
85°	52	142	234	292	315	56
90°	15	103	199	256	277	11
95°	38	94	182	236	256	41
105°	130	179	149	202	221	139
115°	237	263	335	199	179	233
125°	330	338	390	430	446	295
135°	407	414	431	464	476	314
145°	470	470	476	488	493	294
155°	518	514	519	521	518	238
165°	545	543	544	547	544	154
175°	558	555	556	558	555	53
180°	557	557	557	557	557	



TEST NUMBER: P331587-830

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	996.6	996.6	996.6	996.6	996.6	996.6	996.6	996.6	996.6	996.6	996.6
2.5°	1002.5	1001.7	1000.9	1000.1	999.4	998.1	996.3	994.5	992.7	990.9	992.2
5°	999.6	998.6	997.7	996.6	995.7	994.3	992.4	990.4	988.5	986.6	988.5
7.5°	990.6	990.0	989.3	988.7	988.1	987.0	985.5	984.0	982.6	981.1	983.4
10°	983.7	983.1	982.4	981.8	981.1	980.3	979.4	978.4	977.4	976.5	979.0
12.5°	972.1	972.2	972.4	972.5	972.6	972.3	971.7	970.9	970.3	969.5	972.1
15°	953.4	954.0	954.6	955.3	955.9	956.2	956.2	956.2	956.2	956.2	959.1
17.5°	929.1	930.5	931.8	933.1	934.4	935.7	936.7	937.7	938.8	939.8	942.8
20°	912.9	914.5	916.2	917.8	919.4	920.8	922.1	923.3	924.6	926.0	929.4
22.5°	895.6	897.4	899.3	901.2	903.1	904.8	906.6	908.4	910.2	912.0	915.6
25°	866.7	868.9	871.2	873.5	875.7	878.3	881.1	884.0	886.9	889.8	893.6
27.5°	832.0	835.7	839.3	843.0	846.7	850.2	853.6	857.0	860.4	863.8	868.6
30°	808.9	813.0	817.3	821.4	825.6	829.8	834.0	838.1	842.3	846.5	851.6
32.5°	783.4	788.2	792.9	797.6	802.2	807.0	812.0	816.9	821.9	826.8	832.7
35°	746.8	752.2	757.7	763.2	768.6	774.4	780.5	786.6	792.7	798.8	805.9
37.5°	706.9	713.2	719.5	725.8	732.1	739.1	747.1	755.0	762.9	770.8	778.6
40°	680.3	687.4	694.5	701.5	708.6	716.4	725.1	733.8	742.4	751.1	759.5
42.5°	655.0	661.9	669.0	676.1	683.2	691.6	701.6	711.6	721.5	731.5	740.6
45°	612.5	621.1	629.8	638.5	647.1	657.0	668.4	679.6	690.8	702.0	712.0
47.5°	570.6	580.0	589.5	598.9	608.3	619.6	632.8	645.9	659.1	672.2	682.7
50°	541.7	551.7	561.6	571.6	581.5	593.7	608.1	622.5	637.0	651.5	662.4
52.5°	514.0	524.4	534.9	545.4	555.8	568.6	583.8	599.1	614.3	629.5	640.6
55°	469.5	481.0	492.6	504.2	515.7	529.8	546.5	563.2	579.9	596.5	608.1
57.5°	425.6	438.6	451.6	464.7	477.7	492.7	509.7	526.7	543.8	560.7	573.2
60°	394.4	408.1	422.0	435.7	449.6	465.6	483.9	502.2	520.5	538.8	551.0
62.5°	366.6	380.9	395.2	409.5	423.9	440.2	458.5	476.7	495.1	513.4	526.3
65°	320.7	336.4	352.1	367.9	383.6	401.0	419.9	438.8	457.7	476.6	489.8
67.5°	278.5	294.9	311.3	327.8	344.2	362.1	381.5	401.0	420.3	439.7	453.0
70°	248.5	265.1	281.8	298.5	315.2	333.5	353.5	373.3	393.2	413.1	426.9
72.5°	220.7	237.9	255.1	272.3	289.5	308.2	328.4	348.6	368.7	388.9	402.4
75°	177.7	195.7	213.6	231.6	249.6	268.8	289.4	309.9	330.5	351.0	364.8
77.5°	136.1	154.9	173.7	192.5	211.3	231.1	252.0	272.9	293.7	314.6	328.4
80°	108.3	127.9	147.5	167.1	186.6	206.9	227.7	248.6	269.5	290.3	303.8
82.5°	85.2	104.5	123.9	143.2	162.5	182.8	203.9	225.0	246.1	267.2	280.7
85°	52.0	71.9	91.8	111.7	131.6	151.8	172.4	192.9	213.5	234.0	247.5
87.5°	28.4	47.7	67.0	86.3	105.7	125.7	146.4	167.1	187.8	208.5	221.7
90°	14.9	34.5	54.0	73.6	93.2	113.7	135.0	156.2	177.5	198.7	212.0
92.5°	21.4	38.6	55.9	73.1	90.4	109.1	129.2	149.4	169.5	189.6	202.5
95°	37.7	49.9	62.0	74.2	86.2	102.3	122.2	142.0	161.9	181.8	194.4
97.5°	62.1	67.2	72.3	77.4	82.5	95.0	114.9	134.9	154.8	174.7	187.0
100°	81.4	81.1	80.7	80.2	79.8	89.4	109.0	128.4	147.9	167.4	180.0
102.5°	101.5	109.8	118.0	126.3	134.5	141.0	145.8	150.5	155.2	159.9	172.5
105°	129.7	141.7	153.6	165.7	177.7	179.8	172.0	164.3	156.6	148.8	161.0
107.5°	163.5	173.1	182.7	192.3	201.9	200.1	186.7	173.4	160.1	146.8	156.6
110°	184.3	192.6	200.9	209.2	217.4	216.5	206.4	196.2	186.1	176.0	177.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	204.9	211.9	219.0	226.0	233.1	240.9	249.5	258.1	266.6	275.2	252.8
115°	237.4	242.5	247.5	252.6	257.6	268.5	285.2	301.9	318.6	335.3	303.4
117.5°	265.0	269.1	273.1	277.1	281.1	290.6	305.5	320.4	335.3	350.2	349.6
120°	286.3	289.0	291.6	294.2	296.8	305.4	319.8	334.3	348.7	363.2	373.2
122.5°	304.3	306.3	308.2	310.2	312.1	320.0	333.8	347.6	361.5	375.2	384.7
125°	330.5	331.6	332.7	333.9	335.1	341.7	353.6	365.6	377.6	389.6	398.8
127.5°	355.3	356.3	357.2	358.3	359.2	364.5	374.0	383.5	393.1	402.7	411.5
130°	371.1	372.2	373.3	374.5	375.5	379.9	387.7	395.4	403.1	410.9	419.5
132.5°	387.2	388.1	389.0	389.9	390.8	394.4	400.5	406.7	412.9	419.1	427.3
135°	406.7	408.1	409.6	411.0	412.5	415.2	419.1	423.2	427.3	431.2	438.8
137.5°	427.9	428.9	429.8	430.7	431.7	433.3	435.6	437.9	440.3	442.6	449.4
140°	441.8	442.1	442.5	443.0	443.4	444.3	446.0	447.6	449.2	450.9	456.9
142.5°	453.4	453.7	454.0	454.3	454.7	455.4	456.8	458.0	459.2	460.5	465.3
145°	470.1	470.0	470.0	469.9	469.8	470.5	472.0	473.5	475.0	476.5	479.1
147.5°	486.0	485.7	485.3	485.0	484.7	485.2	486.7	488.2	489.7	491.3	492.0
150°	496.3	495.7	495.0	494.5	493.8	494.2	495.7	497.1	498.5	499.9	500.5
152.5°	505.0	504.4	503.6	502.9	502.2	502.6	503.9	505.3	506.6	508.0	508.5
155°	517.6	516.9	516.0	515.3	514.4	514.6	515.7	516.7	517.8	518.9	519.4
157.5°	527.5	526.9	526.2	525.6	524.9	524.9	525.7	526.4	527.2	527.9	528.5
160°	533.4	532.8	532.3	531.8	531.2	531.2	531.8	532.3	532.8	533.4	534.0
162.5°	538.6	538.0	537.4	537.0	536.4	536.4	536.8	537.2	537.7	538.2	538.9
165°	545.4	545.0	544.4	543.8	543.3	543.2	543.5	543.8	544.0	544.2	544.9
167.5°	550.6	550.1	549.6	549.0	548.5	548.4	548.6	548.8	549.1	549.3	550.0
170°	553.6	553.0	552.4	552.0	551.4	551.2	551.4	551.6	551.8	552.0	552.5
172.5°	555.4	555.0	554.4	553.8	553.3	553.2	553.3	553.5	553.6	553.8	554.5
175°	558.0	557.3	556.7	556.1	555.4	555.3	555.4	555.6	555.7	555.9	556.6
177.5°	558.4	557.9	557.3	556.9	556.4	556.1	556.2	556.3	556.4	556.4	556.9
180°	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	996.6	996.6	996.6	996.6	996.6	996.6	996.6	996.6
2.5°	993.4	994.8	996.1	996.5	995.9	995.4	994.9	994.4
5°	990.4	992.4	994.3	995.0	994.8	994.5	994.1	993.8
7.5°	985.7	988.1	990.3	991.4	991.0	990.7	990.3	990.0
10°	981.6	984.2	986.7	987.9	987.5	987.2	986.9	986.6
12.5°	974.7	977.2	979.8	980.9	980.6	980.2	980.0	979.7
15°	962.1	964.9	967.8	969.1	968.7	968.5	968.1	967.8
17.5°	945.8	948.9	951.9	953.4	953.4	953.4	953.4	953.4
20°	932.9	936.5	940.0	941.8	941.8	941.8	941.8	941.8
22.5°	919.1	922.7	926.1	928.2	928.7	929.3	929.7	930.3
25°	897.5	901.4	905.2	907.6	908.6	909.6	910.5	911.4
27.5°	873.5	878.4	883.4	886.1	886.8	887.5	888.3	888.9
30°	856.8	861.9	867.0	870.1	871.0	871.9	873.0	873.9
32.5°	838.7	844.5	850.5	854.2	856.0	857.7	859.5	861.2
35°	812.9	820.0	827.1	831.7	834.0	836.2	838.5	840.7
37.5°	786.5	794.3	802.1	807.2	809.5	812.0	814.4	816.7
40°	767.8	776.2	784.5	790.1	793.1	795.9	798.8	801.7
42.5°	749.7	758.8	768.0	773.9	776.8	779.8	782.6	785.5
45°	721.9	731.9	741.8	748.4	751.6	754.8	758.0	761.2
47.5°	693.1	703.4	713.9	720.9	724.3	727.9	731.4	735.0
50°	673.3	684.2	695.1	702.4	705.9	709.4	712.9	716.4
52.5°	651.9	663.0	674.2	681.6	685.4	689.3	693.1	696.8
55°	619.7	631.2	642.8	650.6	654.8	659.0	663.2	667.3
57.5°	585.7	598.1	610.6	618.9	623.1	627.4	631.6	635.8
60°	563.2	575.4	587.6	596.0	600.4	604.9	609.4	613.9
62.5°	539.3	552.2	565.2	573.8	578.1	582.3	586.5	590.8
65°	503.0	516.1	529.3	538.0	542.2	546.3	550.5	554.7
67.5°	466.3	479.6	492.9	501.7	506.1	510.4	514.8	519.2
70°	440.7	454.5	468.3	477.1	481.0	484.8	488.7	492.6
72.5°	415.9	429.5	443.0	452.1	456.8	461.4	466.0	470.6
75°	378.6	392.4	406.2	415.2	419.3	423.6	427.7	431.9
77.5°	342.0	355.8	369.6	378.7	383.1	387.7	392.2	396.6
80°	317.3	330.8	344.3	353.3	357.8	362.2	366.7	371.3
82.5°	294.2	307.6	321.1	330.0	334.2	338.5	342.7	346.9
85°	261.0	274.5	287.9	296.9	301.4	305.9	310.4	314.9
87.5°	234.8	248.0	261.2	269.8	274.0	278.1	282.3	286.4
90°	225.3	238.6	251.8	260.5	264.6	268.6	272.6	276.6
92.5°	215.3	228.1	240.9	249.3	253.3	257.2	261.2	265.1
95°	207.1	219.8	232.4	240.6	244.4	248.2	251.9	255.6
97.5°	199.2	211.4	223.7	231.8	235.6	239.5	243.5	247.3
100°	192.6	205.2	217.8	225.9	229.6	233.4	237.0	240.8
102.5°	185.1	197.7	210.2	218.3	222.2	225.9	229.7	233.5
105°	173.2	185.5	197.7	205.8	209.6	213.5	217.4	221.3
107.5°	166.4	176.2	185.9	192.7	196.6	200.6	204.4	208.3
110°	178.6	179.9	181.3	183.8	187.8	191.6	195.5	199.3



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CATALOG NUMBER: S122DIW-S1005D435U830-4F0-1E-UDD-D

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	230.5	208.0	185.6	176.3	180.1	184.0	187.8	191.6
115°	271.5	239.8	207.9	190.6	187.7	184.7	181.8	178.9
117.5°	349.1	348.6	348.1	338.8	320.9	303.0	285.1	267.2
120°	383.3	393.4	403.4	404.2	395.7	387.1	378.5	369.9
122.5°	394.0	403.4	412.7	417.8	418.5	419.1	419.8	420.5
125°	408.1	417.5	426.7	432.9	436.1	439.2	442.4	445.5
127.5°	420.4	429.2	438.2	444.0	446.9	449.8	452.7	455.5
130°	428.3	437.0	445.6	451.2	453.6	456.2	458.6	461.1
132.5°	435.6	443.9	452.2	457.6	460.1	462.6	465.1	467.5
135°	446.5	454.1	461.8	466.7	469.2	471.6	474.0	476.4
137.5°	456.2	463.0	469.8	474.1	476.0	477.8	479.7	481.5
140°	462.8	468.7	474.7	478.3	479.8	481.3	482.8	484.3
142.5°	470.1	475.0	479.8	482.9	484.1	485.3	486.5	487.8
145°	481.6	484.3	486.8	488.6	489.8	491.0	492.1	493.2
147.5°	492.7	493.4	494.2	494.6	495.1	495.5	495.9	496.2
150°	501.1	501.5	502.1	502.2	501.7	501.2	500.8	500.4
152.5°	509.1	509.6	510.2	510.1	509.5	509.0	508.3	507.7
155°	520.0	520.5	521.0	520.9	520.2	519.5	518.8	518.1
157.5°	529.1	529.7	530.4	530.3	529.6	528.9	528.2	527.5
160°	534.4	535.0	535.6	535.5	534.9	534.2	533.6	533.0
162.5°	539.4	540.1	540.6	540.5	539.8	539.0	538.3	537.5
165°	545.5	546.1	546.8	546.8	546.1	545.5	544.9	544.2
167.5°	550.6	551.2	551.9	551.8	550.9	550.2	549.3	548.6
170°	553.2	553.8	554.4	554.3	553.6	552.7	552.0	551.1
172.5°	555.1	555.7	556.4	556.3	555.4	554.7	553.8	553.1
175°	557.2	557.8	558.5	558.4	557.4	556.6	555.6	554.8
177.5°	557.4	557.9	558.5	558.4	557.7	557.0	556.4	555.8
180°	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8

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