

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: METALUX

Report Number: P197489

Luminaire Tested: **8WSL-LD2-120-UPL15-UNV-L830-CD2-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P197489
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P28105)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 8WSL-LD2-120-UPL15-UNV-L830-CD2-U
Description: 8FT. Linear Wavestream System, 15% Uplight, L830
Light Source: (476) 3000K CCT, 80 CRI LEDS
EL236N0119D830
Ballast/Driver: OSRAM
OT50W

Summary

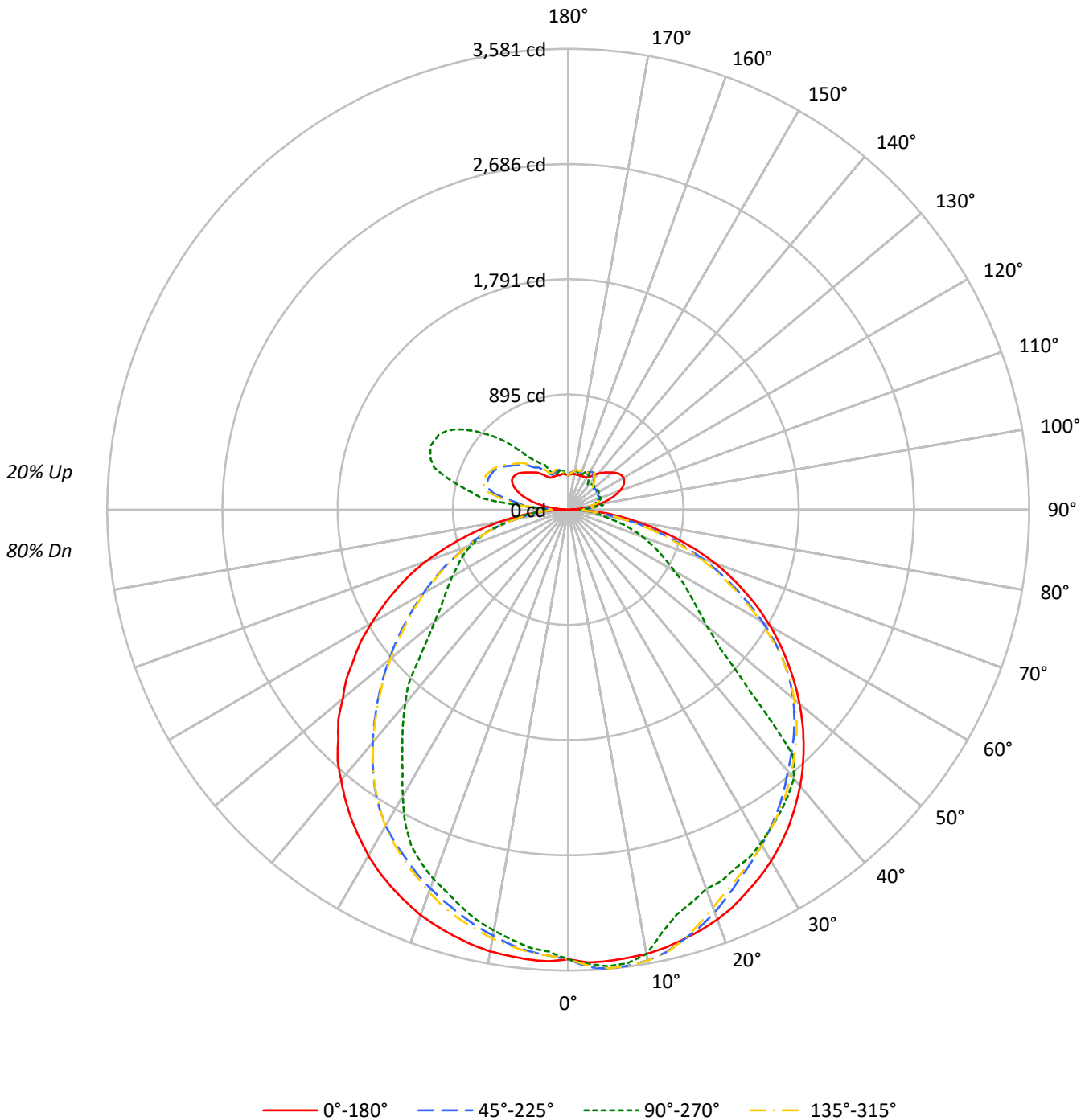
Lumens per Lamp: N/A
Luminaire Lumens: 12362.5 lumens
Efficiency: N/A
Efficacy: 108.9 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 1.19 / 1.35
Luminous Opening: Rectangular (W 0.5' x L: 7.6' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 113.5
Input Voltage (V): NR
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	114	114	114	114	109	109	109	109	100	100	100	91	91	91	83	83	83	80
1	104	99	95	91	99	95	91	88	87	84	81	80	77	75	73	71	70	66
2	94	86	80	74	90	83	77	72	76	71	67	70	66	62	64	61	58	55
3	86	76	68	62	82	73	66	60	67	61	56	61	57	53	56	53	49	46
4	79	67	59	52	75	64	57	51	59	53	48	55	49	45	50	46	42	40
5	72	60	51	45	69	58	50	44	53	46	41	49	43	39	45	41	37	34
6	67	54	45	39	64	52	44	38	48	41	36	44	39	34	41	36	32	30
7	62	49	40	34	59	47	39	33	44	37	32	40	35	30	38	33	29	26
8	58	44	36	30	55	43	35	30	40	33	28	37	31	27	34	29	26	24
9	54	41	33	27	51	39	32	27	37	30	26	34	28	24	32	27	23	21
10	50	37	30	25	48	36	29	24	34	27	23	32	26	22	30	25	21	19

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	9895	9895	9895	9895
5°	10013	10127	9978	9716
10°	10082	10082	10025	9551
15°	10138	9550	10056	9374
20°	10215	9454	10107	9212
25°	10253	9602	10128	9013
30°	10311	9786	10153	8409
35°	10346	9930	10152	7766
40°	10366	10084	10144	7282
45°	10362	8017	10121	6555
50°	10339	6186	10074	5956
55°	10299	5704	10041	5783
60°	10270	5385	9997	5907
65°	10188	5215	9919	6182
70°	10031	5082	9765	6610
75°	9569	4829	9261	7023
80°	8962	4383	8701	7000
85°	8993	5736	8343	8343



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	332.4	2.7
10°-20°	943.4	7.6
20°-30°	1425.6	11.5
30°-40°	1715.8	13.9
40°-50°	1744.9	14.1
50°-60°	1518.8	12.3
60°-70°	1184.8	9.6
70°-80°	732.4	5.9
80°-90°	257.7	2.1
90°-100°	242.6	2.0
100°-110°	469.7	3.8
110°-120°	514.0	4.2
120°-130°	450.6	3.6
130°-140°	337.6	2.7
140°-150°	231.1	1.9
150°-160°	147.2	1.2
160°-170°	86.0	0.7
170°-180°	27.8	0.2
0°-30°	2701.5	21.9
0°-40°	4417.3	35.7
0°-60°	7681.0	62.1
0°-90°	9855.9	79.7
90°-120°	1226.3	9.9
90°-150°	2245.7	18.2
90°-180°	2507.0	20.3
0°-180°	12362.5	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	3493	3493	3493	3493	3493	
5°	3521	3561	3509	3417	3521	335
15°	3457	3257	3429	3196	3457	977
25°	3281	3072	3240	2884	3281	1514
35°	2992	2872	2936	2246	2992	1872
45°	2587	2001	2527	1636	2587	1995
55°	2086	1155	2033	1171	2086	1865
65°	1520	778	1480	922	1520	1502
75°	874	441	846	642	874	926
85°	277	176	257	257	277	276
90°	4	112	4	176	4	21
95°	108	184	84	369	108	112
105°	345	229	333	983	345	359
115°	477	261	477	1179	477	467
125°	485	273	485	1087	485	431
135°	409	273	409	794	409	318
145°	321	273	329	473	321	204
155°	285	329	281	325	285	131
165°	281	297	277	301	281	80
175°	277	289	277	281	277	27
180°	269	269	269	269	269	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	3493.2	3493.2	3493.2	3493.2	3493.2	3493.2	3493.2	3493.2	3493.2	3493.2	3493.2
2.5°	3521.3	3505.2	3557.3	3561.4	3533.3	3545.3	3545.3	3501.2	3513.2	3461.1	3469.1
5°	3521.3	3525.3	3581.4	3577.4	3561.4	3565.4	3577.4	3521.3	3509.2	3437.0	3445.1
7.5°	3513.2	3533.3	3573.4	3569.4	3553.3	3557.3	3577.4	3529.3	3497.2	3413.0	3409.0
10°	3505.2	3525.3	3557.3	3537.3	3505.2	3517.2	3557.3	3525.3	3485.2	3384.9	3360.8
12.5°	3485.2	3505.2	3521.3	3421.0	3364.8	3413.0	3525.3	3505.2	3461.1	3344.8	3312.7
15°	3457.1	3481.1	3461.1	3320.7	3256.6	3300.7	3461.1	3477.1	3429.0	3292.7	3252.5
17.5°	3425.0	3453.1	3400.9	3244.5	3196.4	3216.5	3376.9	3441.0	3392.9	3240.5	3192.4
20°	3388.9	3421.0	3328.7	3164.3	3136.2	3152.3	3288.6	3400.9	3352.8	3184.4	3132.2
22.5°	3340.8	3376.9	3244.5	3108.2	3120.2	3108.2	3208.4	3348.8	3296.7	3124.2	3064.1
25°	3280.6	3320.7	3160.3	3060.0	3072.1	3068.1	3140.3	3280.6	3240.5	3052.0	2987.9
27.5°	3220.5	3260.6	3084.1	3028.0	3048.0	3023.9	3076.1	3208.4	3176.3	2975.8	2915.7
30°	3152.3	3196.4	3007.9	2971.8	2991.9	2975.8	3011.9	3136.2	3104.2	2895.6	2835.5
32.5°	3076.1	3120.2	2927.7	2903.6	2931.7	2911.7	2935.7	3056.0	3019.9	2807.4	2735.2
35°	2991.9	3036.0	2843.5	2843.5	2871.5	2847.5	2859.5	2975.8	2935.7	2719.1	2622.9
37.5°	2899.6	2947.7	2751.2	2771.3	2803.4	2779.3	2779.3	2891.6	2843.5	2622.9	2494.6
40°	2803.4	2855.5	2655.0	2699.1	2727.2	2699.1	2691.1	2803.4	2743.2	2526.6	2362.2
42.5°	2699.1	2755.2	2566.7	2618.9	2582.8	2618.9	2598.8	2711.1	2651.0	2422.4	2225.9
45°	2586.8	2659.0	2478.5	2446.4	2001.3	2422.4	2506.6	2614.9	2526.6	2322.1	2089.5
47.5°	2470.5	2546.7	2382.3	2149.6	1608.2	2125.6	2406.3	2510.6	2422.4	2213.8	1953.1
50°	2346.2	2434.4	2282.0	1893.0	1403.7	1868.9	2294.0	2402.3	2286.0	2097.5	1816.8
52.5°	2217.8	2314.1	2169.7	1672.4	1267.3	1648.3	2173.7	2286.0	2173.7	1973.2	1684.4
55°	2085.5	2185.7	2037.4	1467.9	1155.0	1463.8	2033.3	2161.7	2033.3	1848.9	1552.1
57.5°	1953.1	2065.4	1897.0	1319.5	1058.8	1299.4	1876.9	2033.3	1913.0	1720.5	1423.7
60°	1812.8	1917.0	1744.6	1159.0	950.5	1155.0	1720.5	1901.0	1764.6	1588.2	1299.4
62.5°	1668.4	1784.7	1580.2	1018.7	862.3	1014.7	1552.1	1752.6	1620.3	1451.8	1179.1
65°	1520.0	1632.3	1423.7	906.4	778.0	898.4	1395.7	1600.2	1479.9	1315.5	1066.8
67.5°	1367.6	1471.9	1267.3	798.1	693.8	790.1	1235.2	1439.8	1335.5	1175.1	946.5
70°	1211.2	1307.4	1106.9	693.8	613.6	689.8	1078.8	1275.4	1179.1	1030.7	838.2
72.5°	1046.8	1135.0	938.5	593.6	529.4	589.5	914.4	1106.9	1006.6	878.3	742.0
75°	874.3	958.5	782.1	493.3	441.2	489.3	758.0	926.4	846.2	737.9	629.7
77.5°	709.9	794.1	621.6	381.0	336.9	373.0	593.6	758.0	689.8	597.6	513.3
80°	549.4	617.6	457.2	284.7	268.7	284.7	445.2	581.5	533.4	469.2	401.1
82.5°	405.1	445.2	308.8	232.6	232.6	232.6	300.8	413.1	393.0	348.9	304.8
85°	276.7	276.7	208.5	176.5	176.5	176.5	204.5	244.6	256.7	232.6	232.6
87.5°	116.3	120.3	108.3	96.3	92.2	96.3	104.3	100.3	100.3	112.3	140.4
90°	4.0	52.1	88.2	108.3	112.3	104.3	80.2	48.1	4.0	68.2	124.3
92.5°	28.1	112.3	104.3	136.4	140.4	128.3	108.3	88.2	16.0	124.3	132.3
95°	108.3	132.3	204.5	208.5	184.5	176.5	200.5	124.3	84.2	168.4	336.9
97.5°	172.5	200.5	184.5	240.6	272.7	240.6	192.5	192.5	160.4	260.7	393.0
100°	236.6	212.6	188.5	208.5	240.6	212.6	180.5	212.6	224.6	304.8	481.3
102.5°	296.8	236.6	236.6	204.5	208.5	200.5	228.6	232.6	280.7	344.9	593.6
105°	344.9	244.6	248.7	232.6	228.6	232.6	248.7	248.7	332.9	381.0	645.7
107.5°	389.0	252.7	244.6	256.7	260.7	256.7	244.6	252.7	381.0	405.1	657.7
110°	425.1	256.7	248.7	256.7	268.7	256.7	248.7	260.7	421.1	429.1	665.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	457.2	260.7	256.7	252.7	264.7	252.7	256.7	268.7	453.2	441.2	665.7
115°	477.3	264.7	256.7	256.7	260.7	256.7	260.7	272.7	477.3	445.2	657.7
117.5°	489.3	272.7	260.7	264.7	268.7	264.7	260.7	280.7	493.3	461.2	653.7
120°	497.3	300.8	260.7	268.7	272.7	268.7	260.7	304.8	497.3	469.2	637.7
122.5°	493.3	312.8	264.7	268.7	276.7	268.7	264.7	316.8	493.3	465.2	617.6
125°	485.3	324.9	264.7	264.7	272.7	268.7	268.7	324.9	485.3	457.2	589.5
127.5°	469.2	352.9	264.7	268.7	268.7	268.7	268.7	348.9	469.2	461.2	561.5
130°	449.2	373.0	256.7	272.7	268.7	276.7	264.7	373.0	449.2	449.2	537.4
132.5°	429.1	381.0	256.7	272.7	272.7	276.7	260.7	381.0	429.1	433.1	513.3
135°	409.1	389.0	272.7	268.7	272.7	272.7	276.7	389.0	409.1	417.1	497.3
137.5°	389.0	393.0	292.8	256.7	268.7	260.7	300.8	393.0	393.0	393.0	473.2
140°	369.0	389.0	308.8	248.7	252.7	256.7	316.8	393.0	377.0	381.0	433.1
142.5°	344.9	377.0	320.8	268.7	248.7	276.7	328.9	389.0	352.9	369.0	413.1
145°	320.8	365.0	344.9	296.8	272.7	308.8	356.9	377.0	328.9	360.9	401.1
147.5°	300.8	344.9	348.9	312.8	300.8	324.9	360.9	360.9	304.8	344.9	373.0
150°	288.8	324.9	336.9	324.9	312.8	340.9	352.9	332.9	288.8	332.9	348.9
152.5°	284.7	308.8	308.8	340.9	336.9	356.9	324.9	316.8	280.7	320.8	316.8
155°	284.7	304.8	296.8	312.8	328.9	328.9	308.8	308.8	280.7	320.8	300.8
157.5°	280.7	308.8	296.8	292.8	300.8	308.8	308.8	312.8	280.7	312.8	300.8
160°	280.7	312.8	300.8	288.8	292.8	304.8	312.8	312.8	280.7	312.8	304.8
162.5°	280.7	304.8	304.8	292.8	292.8	308.8	312.8	308.8	280.7	304.8	312.8
165°	280.7	304.8	308.8	300.8	296.8	316.8	312.8	300.8	276.7	300.8	316.8
167.5°	280.7	296.8	312.8	304.8	304.8	316.8	316.8	296.8	276.7	288.8	316.8
170°	280.7	292.8	308.8	304.8	308.8	320.8	308.8	292.8	280.7	284.7	304.8
172.5°	280.7	284.7	300.8	304.8	304.8	312.8	300.8	284.7	280.7	276.7	292.8
175°	276.7	284.7	292.8	292.8	288.8	300.8	288.8	280.7	276.7	272.7	280.7
177.5°	272.7	276.7	284.7	284.7	276.7	284.7	276.7	272.7	272.7	268.7	276.7
180°	268.7	268.7	268.7	268.7	268.7	268.7	268.7	268.7	268.7	268.7	268.7



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CATALOG NUMBER: 8WSL-LD2-120-UPL15-UNV-L830-CD2-U

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3493.2	3493.2	3493.2	3493.2	3493.2	3493.2
2.5°	3465.1	3437.0	3445.1	3469.1	3465.1	3521.3
5°	3429.0	3417.0	3417.0	3453.1	3449.1	3521.3
7.5°	3388.9	3368.9	3380.9	3421.0	3433.0	3513.2
10°	3336.8	3320.7	3324.7	3384.9	3404.9	3505.2
12.5°	3284.6	3268.6	3280.6	3336.8	3364.8	3485.2
15°	3224.5	3196.4	3228.5	3288.6	3324.7	3457.1
17.5°	3152.3	3120.2	3152.3	3232.5	3276.6	3425.0
20°	3088.1	3056.0	3076.1	3160.3	3220.5	3388.9
22.5°	3015.9	2975.8	2991.9	3084.1	3160.3	3340.8
25°	2935.7	2883.6	2907.6	3007.9	3092.1	3280.6
27.5°	2831.4	2743.2	2803.4	2927.7	3007.9	3220.5
30°	2687.1	2570.8	2667.0	2839.5	2931.7	3152.3
32.5°	2518.6	2394.3	2498.6	2731.2	2843.5	3076.1
35°	2354.2	2245.9	2342.2	2618.9	2755.2	2991.9
37.5°	2209.8	2109.5	2197.8	2490.5	2659.0	2899.6
40°	2061.4	1969.2	2057.4	2354.2	2562.7	2803.4
42.5°	1925.1	1836.8	1921.0	2217.8	2458.5	2699.1
45°	1780.7	1636.3	1772.7	2077.5	2346.2	2586.8
47.5°	1628.3	1475.9	1616.2	1941.1	2233.9	2470.5
50°	1487.9	1351.6	1479.9	1800.7	2113.6	2346.2
52.5°	1363.6	1247.3	1359.6	1660.4	1989.2	2217.8
55°	1247.3	1171.1	1251.3	1532.0	1872.9	2085.5
57.5°	1155.0	1102.9	1159.0	1407.7	1744.6	1953.1
60°	1074.8	1042.7	1078.8	1283.4	1608.2	1812.8
62.5°	986.6	974.6	986.6	1163.1	1475.9	1668.4
65°	910.4	922.4	910.4	1054.8	1335.5	1520.0
67.5°	838.2	866.3	842.2	938.5	1195.1	1367.6
70°	758.0	798.1	762.0	834.2	1050.8	1211.2
72.5°	673.8	721.9	673.8	733.9	898.4	1046.8
75°	585.5	641.7	589.5	625.6	754.0	874.3
77.5°	489.3	525.4	497.3	509.3	613.6	709.9
80°	389.0	429.1	393.0	401.1	485.3	549.4
82.5°	324.9	352.9	328.9	304.8	360.9	405.1
85°	240.6	256.7	248.7	236.6	248.7	276.7
87.5°	148.4	156.4	148.4	148.4	128.3	116.3
90°	164.4	176.5	164.4	128.3	72.2	4.0
92.5°	168.4	184.5	168.4	140.4	136.4	28.1
95°	377.0	369.0	401.1	365.0	208.5	108.3
97.5°	585.5	669.8	605.6	437.1	280.7	172.5
100°	673.8	754.0	701.8	545.4	320.8	236.6
102.5°	778.0	866.3	810.1	637.7	360.9	296.8
105°	906.4	982.6	934.5	673.8	397.0	344.9
107.5°	974.6	1090.9	994.6	689.8	421.1	389.0
110°	1010.7	1135.0	1042.7	693.8	441.2	425.1



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CATALOG NUMBER: 8WSL-LD2-120-UPL15-UNV-L830-CD2-U

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	1038.7	1159.0	1062.8	693.8	449.2	457.2
115°	1038.7	1179.1	1062.8	681.8	461.2	477.3
117.5°	1038.7	1167.1	1062.8	669.8	477.3	489.3
120°	1002.6	1163.1	1034.7	653.7	481.3	497.3
122.5°	974.6	1131.0	994.6	633.7	481.3	493.3
125°	922.4	1086.9	946.5	609.6	473.2	485.3
127.5°	866.3	1022.7	886.3	581.5	477.3	469.2
130°	814.1	950.5	826.2	553.5	461.2	449.2
132.5°	746.0	870.3	758.0	533.4	445.2	429.1
135°	681.8	794.1	697.8	517.4	425.1	409.1
137.5°	613.6	713.9	629.7	485.3	405.1	389.0
140°	533.4	613.6	549.4	449.2	393.0	369.0
142.5°	481.3	525.4	497.3	433.1	377.0	344.9
145°	449.2	473.2	461.2	417.1	369.0	320.8
147.5°	417.1	441.2	429.1	385.0	348.9	300.8
150°	405.1	405.1	421.1	356.9	336.9	288.8
152.5°	360.9	393.0	377.0	324.9	328.9	284.7
155°	308.8	324.9	324.9	312.8	328.9	284.7
157.5°	288.8	300.8	304.8	312.8	320.8	280.7
160°	288.8	292.8	304.8	316.8	316.8	280.7
162.5°	296.8	292.8	312.8	324.9	308.8	280.7
165°	304.8	300.8	320.8	328.9	300.8	280.7
167.5°	312.8	312.8	328.9	324.9	292.8	280.7
170°	312.8	320.8	328.9	312.8	288.8	280.7
172.5°	300.8	304.8	312.8	292.8	276.7	280.7
175°	284.7	280.7	292.8	280.7	276.7	276.7
177.5°	276.7	264.7	276.7	272.7	268.7	272.7
180°	268.7	268.7	268.7	268.7	268.7	268.7

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