

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: P236515

Luminaire Tested: **SKB4-LD5-24-N-UNV-L840-CD4-U outer 2 blades vertical inner 2 blades**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236515
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24061)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: SKB4-LD5-24-N-UNV-L840-CD4-U outer 2 blades vertical inner 2 blades
Description: METALUX SKYBAR LED WAVESTREAM LUMINAIRE
4 BLADES WITH NARROW DISTRIBUTION LENS, OUTER 2 BLADES VERTICAL INNER 2
BLADES HORIZONTAL
Light Source: (952) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

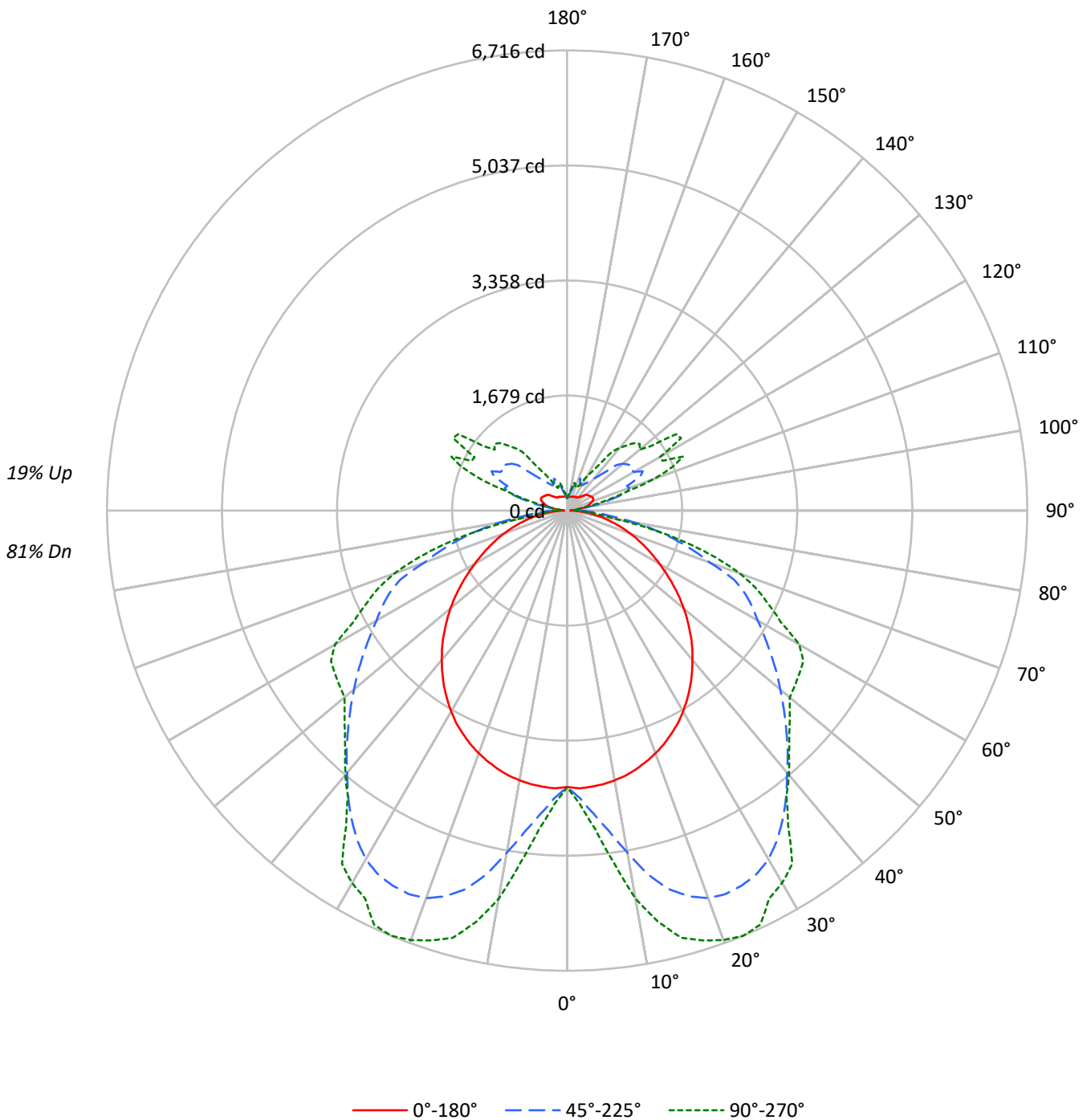
Lumens per Lamp: N/A
Luminaire Lumens: 22877.0 lumens
Efficiency: N/A
Efficacy: 110.9 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.79 / 1.74
Luminous Opening: Rectangular w/ Sides (W: 1.88' x L: 4' x H: 0.21')
CIE Type: Semi-Direct

Input Watts (W): 206.2
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





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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	115	115	115	115	110	110	110	110	101	101	101	93	93	93	85	85	85	81
1	104	99	95	91	99	95	91	87	87	84	81	80	78	75	74	72	70	67
2	94	86	79	73	90	82	76	70	76	70	66	70	65	62	64	61	58	55
3	85	75	66	60	81	72	64	58	66	60	55	61	56	51	56	52	48	45
4	78	66	57	50	74	63	55	49	58	52	46	54	48	44	50	45	41	38
5	71	58	49	43	68	56	48	42	52	45	40	48	42	37	44	39	35	33
6	66	52	43	37	63	50	42	36	47	40	34	43	37	33	40	35	31	28
7	61	47	38	32	58	46	37	32	42	35	30	39	33	29	36	31	27	25
8	56	43	34	29	54	41	33	28	39	32	27	36	30	25	33	28	24	22
9	53	39	31	25	50	38	30	25	35	29	24	33	27	23	31	26	22	20
10	49	36	28	23	47	35	27	22	33	26	21	30	25	21	28	23	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5792	5792	5792
5°	5803	6336	6649
10°	5772	7240	8224
15°	5720	8241	9315
20°	5652	8824	9792
25°	5559	9069	10039
30°	5443	9131	9774
35°	5294	8900	9147
40°	5110	8532	8632
45°	4909	8228	8377
50°	4672	7969	8360
55°	4393	7774	8939
60°	4100	7684	9413
65°	3851	7799	8906
70°	3601	7081	8615
75°	3317	6293	7019
80°	2993	4949	3926
85°	2532	3278	2533



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	438.4	1.9
10°-20°	1541.2	6.7
20°-30°	2594.1	11.3
30°-40°	3137.6	13.7
40°-50°	3192.9	14.0
50°-60°	3039.8	13.3
60°-70°	2576.0	11.3
70°-80°	1594.5	7.0
80°-90°	524.5	2.3
90°-100°	215.3	0.9
100°-110°	657.1	2.9
110°-120°	1067.5	4.7
120°-130°	971.7	4.2
130°-140°	667.6	2.9
140°-150°	353.2	1.5
150°-160°	186.7	0.8
160°-170°	97.2	0.4
170°-180°	21.7	0.1
0°-30°	4573.8	20.0
0°-40°	7711.4	33.7
0°-60°	13944.0	61.0
0°-90°	18639.0	81.5
90°-120°	1939.9	8.5
90°-150°	3932.4	17.2
90°-180°	4238.0	18.5
0°-180°	22877.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4036	4036	4036	4036	4036	
5°	4046	4217	4443	4582	4660	385
15°	3904	4648	5718	6251	6456	1101
25°	3595	4907	6035	6563	6668	1657
35°	3132	4513	5490	5680	5627	1956
45°	2545	3730	4522	4677	4586	1962
55°	1886	2871	3619	4031	4140	1688
65°	1261	2124	2865	3143	3247	1251
75°	714	1399	1624	1785	1791	758
85°	245	605	462	381	349	246
90°	47	338	220	171	149	39
95°	116	247	158	112	92	118
105°	330	583	733	650	633	343
115°	421	701	1176	1520	1866	410
125°	384	560	1142	1530	1944	344
135°	294	464	813	1282	1393	232
145°	234	485	490	672	822	149
155°	221	366	446	433	396	103
165°	210	261	375	440	420	59
175°	200	201	212	214	239	19
180°	185	185	185	185	185	



TEST NUMBER: P236515

CATALOG NUMBER: SKB4-LD5-24-N-UNV-L840-CD4-U outer 2 blades vertical inner 2 blades

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	4035.6	4035.6	4035.6	4035.6	4035.6	4035.6	4035.6	4035.6	4035.6	4035.6	4035.6
2.5°	4058.1	4044.2	4039.9	4061.3	4094.5	4110.6	4129.8	4145.9	4168.4	4195.2	4223.0
5°	4046.3	4042.0	4062.4	4117.0	4184.5	4248.7	4316.2	4354.7	4396.5	4442.6	4489.7
7.5°	4029.2	4037.7	4088.1	4182.3	4307.6	4377.2	4456.5	4542.2	4639.6	4723.2	4821.7
10°	3997.0	4027.0	4111.6	4254.1	4374.0	4496.1	4633.2	4767.1	4919.2	5069.1	5215.8
12.5°	3959.5	4004.5	4137.3	4281.9	4452.2	4627.9	4820.6	5023.1	5238.3	5435.4	5619.6
15°	3903.8	3973.5	4140.5	4302.3	4531.5	4763.9	5019.8	5285.5	5533.9	5718.1	5899.1
17.5°	3840.7	3931.7	4113.8	4320.5	4601.1	4891.3	5213.7	5490.0	5721.4	5900.2	6083.4
20°	3771.0	3883.5	4076.3	4330.1	4663.2	5013.4	5346.5	5602.5	5822.0	6020.2	6200.1
22.5°	3688.6	3824.6	4029.2	4324.8	4709.3	5086.2	5403.3	5647.5	5884.2	6055.5	6206.5
25°	3595.4	3750.7	3968.1	4304.4	4730.7	5083.0	5399.0	5659.2	5856.3	6035.2	6193.7
27.5°	3500.1	3656.4	3894.2	4262.6	4700.7	5045.5	5365.8	5590.7	5797.4	5982.7	6156.2
30°	3383.3	3547.2	3797.8	4195.2	4613.9	4958.8	5263.0	5487.9	5693.5	5876.7	6027.7
32.5°	3261.2	3425.1	3683.2	4102.0	4499.3	4842.1	5118.4	5340.1	5531.8	5703.2	5833.8
35°	3131.6	3288.0	3554.7	3979.9	4355.8	4670.7	4953.4	5156.9	5345.4	5490.0	5576.8
37.5°	2991.3	3140.2	3415.5	3829.9	4200.5	4489.7	4759.6	4954.5	5123.7	5251.2	5314.4
40°	2846.8	2984.9	3262.3	3666.1	4013.1	4295.8	4540.0	4737.1	4887.0	4995.2	5048.8
42.5°	2702.2	2821.1	3100.6	3490.4	3804.2	4087.0	4324.8	4509.0	4658.9	4762.8	4823.8
45°	2544.7	2656.1	2934.6	3305.2	3594.3	3866.4	4103.1	4279.8	4417.9	4521.8	4592.5
47.5°	2385.1	2489.0	2762.1	3114.5	3384.4	3650.0	3877.1	4049.5	4189.8	4289.4	4378.3
50°	2222.4	2319.8	2583.3	2898.2	3167.0	3425.1	3645.7	3818.2	3954.2	4060.2	4152.3
52.5°	2056.3	2147.4	2398.0	2692.5	2952.8	3212.0	3416.5	3589.0	3727.1	3844.9	3946.7
55°	1886.1	1977.1	2224.5	2496.5	2749.3	2993.5	3197.0	3365.1	3502.2	3619.0	3735.7
57.5°	1717.9	1808.9	2053.1	2303.8	2556.5	2788.9	2988.1	3143.4	3282.7	3412.3	3540.8
60°	1557.3	1652.6	1886.1	2128.1	2365.9	2590.8	2785.7	2930.3	3065.2	3212.0	3385.5
62.5°	1406.2	1506.9	1725.4	1966.4	2194.5	2404.4	2579.0	2716.1	2863.9	3049.2	3227.0
65°	1260.6	1366.6	1573.3	1808.9	2027.4	2221.3	2371.2	2505.1	2682.9	2865.0	3028.8
67.5°	1120.3	1228.5	1429.8	1655.8	1852.9	2033.9	2160.2	2314.5	2488.0	2635.8	2639.0
70°	981.0	1094.6	1292.7	1502.6	1683.6	1831.4	1975.0	2113.1	2205.2	2222.4	2300.5
72.5°	846.1	967.1	1151.3	1345.2	1508.0	1647.2	1781.1	1820.7	1840.0	1928.9	1989.9
75°	714.4	837.5	1014.3	1186.7	1329.1	1469.4	1505.8	1510.1	1564.8	1623.7	1663.3
77.5°	588.0	709.0	877.2	1028.2	1168.5	1228.5	1241.3	1259.5	1282.0	1313.1	1331.3
80°	469.1	584.8	737.9	877.2	965.0	1005.7	1013.2	1007.8	999.3	990.7	976.8
82.5°	355.6	462.7	597.6	715.4	778.6	804.3	787.2	751.9	720.8	678.0	649.0
85°	245.3	338.4	456.3	545.1	601.9	608.3	577.3	539.8	502.3	461.6	428.4
87.5°	141.4	214.2	314.9	403.8	459.5	456.3	417.7	378.1	345.9	319.2	299.9
90°	47.1	111.4	207.8	289.2	340.6	335.2	302.0	269.9	244.2	219.6	200.3
92.5°	50.3	92.1	162.8	224.9	264.5	268.8	246.3	220.6	194.9	170.3	153.2
95°	115.7	140.3	189.6	231.3	247.4	246.3	229.2	205.6	182.1	158.5	139.2
97.5°	175.6	204.6	245.3	298.8	330.9	324.5	295.6	250.6	220.6	198.1	178.9
100°	237.8	281.7	312.7	371.6	418.8	445.5	433.8	399.5	370.6	334.2	287.0
102.5°	296.7	352.4	381.3	444.5	501.2	543.0	569.8	568.7	549.4	511.9	488.4
105°	329.9	395.2	420.9	494.8	563.4	601.9	638.3	692.9	734.7	732.6	716.5
107.5°	357.7	418.8	450.9	523.7	604.1	689.7	698.3	726.1	842.9	911.4	951.1
110°	395.2	449.8	479.8	547.3	649.0	714.4	821.5	818.3	816.1	968.2	1103.1



TEST NUMBER: P236515

CATALOG NUMBER: SKB4-LD5-24-N-UNV-L840-CD4-U outer 2 blades vertical inner 2 blades

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	414.5	464.8	486.2	547.3	661.9	747.6	826.8	959.6	976.8	943.6	1021.7
115°	420.9	467.0	492.7	533.4	639.4	762.6	835.4	936.1	1107.4	1176.0	1150.3
117.5°	417.7	459.5	508.7	516.2	600.8	754.0	859.0	924.3	1040.0	1243.4	1361.3
120°	405.9	439.1	521.6	492.7	568.7	712.2	856.8	958.6	1016.4	1125.6	1322.7
122.5°	394.1	422.0	523.7	476.6	550.5	650.1	832.2	948.9	1054.9	1106.4	1180.3
125°	384.5	407.0	519.4	475.5	517.3	603.0	747.6	926.4	1034.6	1141.7	1197.4
127.5°	372.7	392.0	513.0	506.6	491.6	579.4	674.7	859.0	1005.7	1107.4	1212.4
130°	355.6	373.8	499.1	537.6	468.0	537.6	615.8	733.6	941.4	1063.5	1161.0
132.5°	325.6	343.8	461.6	541.9	455.2	490.5	583.7	648.0	781.8	989.6	1101.0
135°	293.5	311.7	414.5	517.3	469.1	458.4	519.4	597.6	678.0	812.9	1007.8
137.5°	271.0	288.1	369.5	488.4	508.7	435.9	478.7	548.4	606.2	687.6	800.0
140°	252.8	269.9	328.8	465.9	520.5	446.6	447.7	493.7	561.2	605.1	672.6
142.5°	239.9	254.9	299.9	428.4	497.0	472.3	428.4	453.0	495.9	556.9	594.4
145°	233.5	244.2	282.7	386.6	464.8	504.4	442.3	423.1	455.2	489.5	545.1
147.5°	233.5	239.9	269.9	339.5	441.3	494.8	470.2	432.7	424.1	452.0	479.8
150°	232.4	236.7	264.5	305.2	403.8	461.6	508.7	446.6	431.6	423.1	442.3
152.5°	226.0	231.3	261.3	293.5	370.6	443.4	484.1	498.0	447.7	438.0	418.8
155°	220.6	224.9	252.8	282.7	327.7	404.8	449.8	486.2	490.5	445.5	444.5
157.5°	217.4	220.6	243.1	269.9	295.6	359.9	417.7	449.8	487.3	503.4	468.0
160°	214.2	216.3	235.6	257.0	281.7	313.8	371.6	416.6	446.6	474.5	503.4
162.5°	211.0	212.1	227.1	246.3	266.7	286.0	319.2	365.2	403.8	433.8	447.7
165°	209.9	209.9	219.6	237.8	252.8	269.9	286.0	309.5	342.7	374.9	400.6
167.5°	206.7	206.7	213.1	226.0	241.0	251.7	265.6	277.4	286.0	306.3	326.7
170°	204.6	204.6	207.8	215.3	226.0	236.7	245.3	252.8	260.3	266.7	269.9
172.5°	202.4	201.4	202.4	205.6	211.0	217.4	226.0	231.3	234.6	238.8	239.9
175°	200.3	199.2	199.2	199.2	200.3	201.4	204.6	206.7	207.8	212.1	214.2
177.5°	198.1	197.1	197.1	196.0	194.9	193.9	192.8	191.7	189.6	188.5	187.4
180°	185.3	185.3	185.3	185.3	185.3	185.3	185.3	185.3	185.3	185.3	185.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	4035.6	4035.6	4035.6	4035.6	4035.6	4035.6	4035.6	4035.6
2.5°	4213.4	4234.8	4235.9	4250.9	4292.6	4298.0	4296.9	4287.3
5°	4504.7	4547.5	4565.7	4597.9	4653.6	4665.3	4669.6	4660.0
7.5°	4872.0	4952.4	5002.7	5055.2	5131.2	5169.8	5181.6	5174.1
10°	5316.5	5442.9	5526.4	5607.8	5708.5	5739.6	5763.1	5753.5
12.5°	5718.1	5831.7	5916.3	6014.8	6103.7	6133.7	6149.8	6147.6
15°	5995.5	6116.6	6205.5	6296.5	6390.7	6430.4	6456.1	6456.1
17.5°	6192.6	6316.8	6365.0	6456.1	6521.4	6547.1	6573.9	6577.1
20°	6282.6	6371.5	6445.4	6538.5	6617.8	6642.4	6668.1	6670.3
22.5°	6311.5	6405.7	6494.6	6599.6	6676.7	6697.1	6719.5	6716.3
25°	6302.9	6407.9	6509.6	6615.7	6686.3	6678.8	6692.8	6668.1
27.5°	6262.2	6341.5	6398.2	6429.3	6421.8	6389.7	6386.5	6384.3
30°	6096.2	6135.8	6180.8	6215.1	6239.7	6244.0	6270.8	6276.1
32.5°	5874.5	5917.4	5968.8	6019.1	6055.5	6069.4	6097.3	6114.4
35°	5603.5	5626.0	5668.9	5690.3	5686.0	5646.4	5628.2	5627.1
37.5°	5321.9	5354.0	5382.9	5379.7	5352.9	5294.0	5268.3	5256.5
40°	5080.9	5122.7	5145.2	5141.9	5108.7	5048.8	5035.9	5037.0
42.5°	4852.8	4890.3	4899.9	4879.5	4844.2	4802.4	4799.2	4792.8
45°	4630.0	4672.8	4684.6	4668.6	4640.7	4601.1	4587.2	4586.1
47.5°	4419.0	4466.1	4473.6	4457.6	4446.9	4420.1	4413.7	4406.2
50°	4218.7	4274.4	4278.7	4279.8	4268.0	4244.4	4242.3	4240.1
52.5°	4014.2	4063.4	4094.5	4137.3	4170.5	4172.7	4189.8	4190.9
55°	3812.8	3913.5	3994.9	4067.7	4110.6	4119.1	4137.3	4139.5
57.5°	3668.2	3796.7	3899.6	3978.8	4034.5	4055.9	4083.8	4087.0
60°	3535.4	3677.9	3779.6	3849.2	3883.5	3901.7	3917.8	3910.3
62.5°	3375.8	3492.6	3530.1	3508.6	3505.4	3507.6	3521.5	3512.9
65°	3086.7	3092.0	3108.1	3177.7	3219.5	3230.2	3248.4	3247.3
67.5°	2679.7	2766.4	2835.0	2917.4	2965.6	2978.5	2998.8	2996.7
70°	2372.3	2467.6	2530.8	2609.0	2647.5	2660.4	2681.8	2679.7
72.5°	2056.3	2130.2	2180.6	2239.5	2266.3	2279.1	2274.8	2271.6
75°	1708.3	1750.0	1770.4	1800.4	1802.5	1805.7	1796.1	1790.7
77.5°	1333.4	1336.6	1332.3	1336.6	1318.4	1306.6	1288.4	1276.6
80°	944.6	908.2	859.0	834.3	807.5	796.8	779.7	774.3
82.5°	622.3	603.0	569.8	550.5	530.2	513.0	500.2	493.7
85°	404.8	395.2	384.5	378.1	369.5	362.0	353.4	349.2
87.5°	286.0	279.5	269.9	264.5	257.0	250.6	242.0	238.8
90°	186.4	181.0	172.4	169.2	163.9	159.6	153.2	148.9
92.5°	142.4	134.9	129.6	125.3	120.0	114.6	109.2	107.1
95°	126.4	120.0	114.6	109.2	105.0	98.5	94.2	92.1
97.5°	168.1	159.6	152.1	148.9	145.7	137.1	133.9	131.7
100°	257.0	249.5	245.3	238.8	231.3	224.9	221.7	220.6
102.5°	477.7	473.4	454.1	440.2	413.4	390.9	383.4	381.3
105°	695.1	663.0	652.2	648.0	641.5	635.1	635.1	633.0
107.5°	969.3	982.1	985.3	978.9	944.6	916.8	903.9	899.7
110°	1177.0	1245.6	1298.1	1339.8	1345.2	1343.1	1344.1	1346.3



TEST NUMBER: P236515

CATALOG NUMBER: SKB4-LD5-24-N-UNV-L840-CD4-U outer 2 blades vertical inner 2 blades

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1242.4	1397.7	1509.1	1587.2	1626.9	1644.0	1656.9	1662.2
115°	1102.1	1221.0	1398.7	1641.9	1756.5	1820.7	1853.9	1865.7
117.5°	1394.5	1384.8	1337.7	1366.6	1463.0	1526.2	1562.6	1571.2
120°	1504.8	1595.8	1651.5	1663.3	1660.1	1619.4	1574.4	1560.5
122.5°	1325.9	1534.8	1693.3	1793.9	1864.6	1917.1	1957.8	1970.7
125°	1229.5	1325.9	1445.9	1614.0	1757.5	1853.9	1920.3	1943.9
127.5°	1288.4	1305.6	1336.6	1392.3	1458.7	1500.5	1540.1	1553.0
130°	1259.5	1346.3	1388.0	1397.7	1382.7	1378.4	1380.5	1379.5
132.5°	1194.2	1270.2	1352.7	1410.5	1430.9	1436.2	1438.4	1438.4
135°	1107.4	1188.8	1254.2	1309.9	1355.9	1374.1	1389.1	1393.4
137.5°	988.5	1089.2	1159.9	1215.6	1263.8	1282.0	1289.5	1291.6
140°	763.6	906.1	1033.5	1107.4	1163.1	1185.6	1194.2	1196.3
142.5°	640.5	711.2	786.1	899.7	1004.6	1056.0	1087.1	1089.2
145°	581.6	603.0	643.7	699.4	747.6	779.7	808.6	821.5
147.5°	516.2	562.3	580.5	594.4	614.8	635.1	653.3	668.3
150°	464.8	485.2	514.1	549.4	566.6	574.1	582.6	573.0
152.5°	429.5	446.6	465.9	475.5	483.0	485.2	473.4	464.8
155°	422.0	415.6	427.3	438.0	440.2	435.9	405.9	396.3
157.5°	445.5	440.2	429.5	413.4	408.1	375.9	359.9	356.6
160°	499.1	467.0	432.7	426.3	403.8	377.0	369.5	366.3
162.5°	472.3	491.6	497.0	483.0	438.0	416.6	405.9	401.6
165°	425.2	432.7	438.0	441.3	437.0	425.2	420.9	419.8
167.5°	350.2	369.5	379.1	383.4	389.8	383.4	367.4	364.1
170°	274.2	289.2	296.7	303.1	320.2	320.2	307.4	297.7
172.5°	241.0	243.1	246.3	250.6	259.2	263.5	263.5	260.3
175°	213.1	212.1	212.1	215.3	221.7	228.1	233.5	238.8
177.5°	184.2	182.1	178.9	179.9	184.2	190.6	198.1	199.2
180°	185.3	185.3	185.3	185.3	185.3	185.3	185.3	185.3

(END OF REPORT)