

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: P236503

Luminaire Tested: **SKB4-LD5-24-N-UNV-L840-CD4-U outer 2 blades tilted out 20 degrees**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P236503  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24058)  
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 tilted out 20 degrees  
Description: METALUX SKYBAR LED WAVESTREAM LUMINAIRE  
4 BLADES WITH NARROW DISTRIBUTION LENS, OUTER 2 BLADES TILTED OUT 20  
DEGREES  
Light Source: (952) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

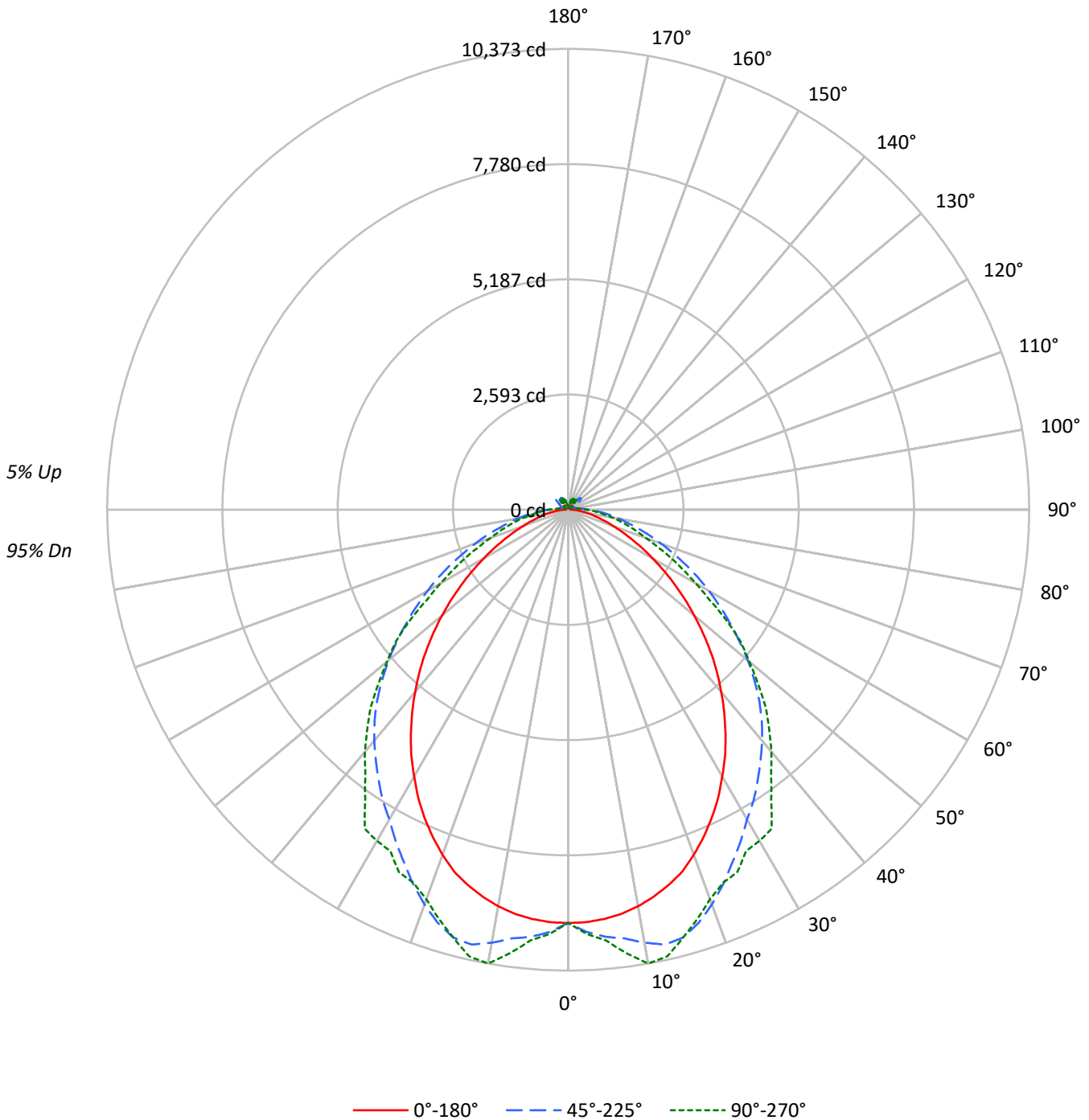
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 26483.0 lumens  
Efficiency: N/A  
Efficacy: 128.4 lumens/watt  
Spacing Criteria (0/90/45): 1.13 / 1.35 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 1.88' x L: 4' x H: 0.21')  
CIE Type: Direct  
  
Input Watts (W): 206.2  
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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CATALOG NUMBER: SKB4-LD5-24-N-UNV-L840-CD4-U outer 2 blades tilted out 20 degrees

### 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	50	30	10	50	30	10	0		
RCR																										
0	118	118	118	118	115	115	115	115	108	108	108	103	103	103	97	97	97	95	95	95	95	95	95	95		
1	108	103	99	95	104	100	96	93	95	92	89	90	88	85	86	84	82	79	79	79	79	79	79	79		
2	98	90	83	78	95	88	82	77	84	78	74	80	75	72	76	72	69	67	67	67	67	67	67	67		
3	90	80	72	65	87	78	70	64	74	68	63	71	65	61	67	63	59	57	57	57	57	57	57	57		
4	83	71	62	56	80	69	61	55	66	59	54	63	57	53	61	56	51	49	49	49	49	49	49	49		
5	76	64	55	48	74	62	54	48	60	52	47	57	51	46	55	49	45	43	43	43	43	43	43	43		
6	70	57	49	43	68	56	48	42	54	47	41	52	45	41	50	44	40	38	38	38	38	38	38	38		
7	65	52	44	38	63	51	43	37	49	42	37	47	41	36	46	40	36	34	34	34	34	34	34	34		
8	61	48	39	34	59	47	39	34	45	38	33	44	37	33	42	36	32	30	30	30	30	30	30	30		
9	57	44	36	30	55	43	36	30	42	35	30	40	34	29	39	33	29	27	27	27	27	27	27	27		
10	54	41	33	28	52	40	33	28	39	32	27	37	31	27	36	31	27	25	25	25	25	25	25	25		

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

	0°	45°	90°
0°	13350	13350	13350
5°	13263	13762	13888
10°	13088	14133	14826
15°	12808	14371	14395
20°	12385	13856	13696
25°	11823	13148	13555
30°	11152	12502	13405
35°	10432	12051	12946
40°	9622	11590	12197
45°	8753	11062	11484
50°	7784	10349	10483
55°	6790	9537	9413
60°	5787	8750	7977
65°	4832	7901	6944
70°	3979	7067	5967
75°	3267	6260	5491
80°	2747	5800	5034
85°	2321	5567	4871



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	922.6	3.5
10°-20°	2716.8	10.3
20°-30°	3973.1	15.0
30°-40°	4598.5	17.4
40°-50°	4450.7	16.8
50°-60°	3645.4	13.8
60°-70°	2527.6	9.5
70°-80°	1535.5	5.8
80°-90°	789.7	3.0
90°-100°	309.8	1.2
100°-110°	180.0	0.7
110°-120°	175.1	0.7
120°-130°	187.8	0.7
130°-140°	190.5	0.7
140°-150°	144.0	0.5
150°-160°	92.3	0.3
160°-170°	36.3	0.1
170°-180°	7.4	0.0
0°-30°	7612.5	28.7
0°-40°	12211.0	46.1
0°-60°	20307.0	76.7
0°-90°	25159.9	95.0
90°-120°	664.8	2.5
90°-150°	1187.1	4.5
90°-180°	1323.0	5.0
0°-180°	26483.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	9302	9302	9302	9302	9302	
5°	9248	9498	9649	9690	9734	877
15°	8741	9343	9971	9993	9977	2459
25°	7647	8556	8749	8885	9003	3513
35°	6171	6972	7434	7933	7964	3852
45°	4537	5215	6079	6368	6287	3494
55°	2915	3664	4439	4506	4359	2614
65°	1582	2402	2902	2771	2532	1585
75°	704	1525	1615	1513	1401	767
85°	225	840	784	735	672	227
90°	64	498	463	449	408	43
95°	49	320	298	283	254	42
105°	66	276	147	124	105	72
115°	95	375	169	105	80	95
125°	120	287	260	142	103	107
135°	124	303	364	262	166	96
145°	111	217	254	290	307	71
155°	104	56	273	306	290	48
165°	98	75	55	196	198	28
175°	94	93	96	96	92	9
180°	91	91	91	91	91	



TEST NUMBER: P236503

CATALOG NUMBER: SKB4-LD5-24-N-UNV-L840-CD4-U outer 2 blades tilted out 20 degrees

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	9301.9	9301.9	9301.9	9301.9	9301.9	9301.9	9301.9	9301.9	9301.9	9301.9	9301.9
2.5°	9293.4	9286.9	9322.3	9365.1	9409.0	9401.5	9436.9	9481.9	9484.0	9512.9	9523.6
5°	9248.4	9257.0	9333.0	9416.5	9491.5	9505.4	9556.8	9614.7	9621.1	9649.0	9658.6
7.5°	9174.5	9203.4	9321.2	9430.5	9517.2	9529.0	9570.8	9641.5	9674.7	9734.6	9787.1
10°	9063.1	9123.1	9268.7	9375.8	9457.2	9494.7	9580.4	9700.4	9778.5	9895.3	9993.8
12.5°	8916.4	8997.8	9152.0	9261.2	9378.0	9461.5	9594.3	9771.1	9889.9	10026.0	10127.7
15°	8740.7	8843.5	8990.3	9125.2	9280.5	9405.8	9577.2	9782.8	9893.1	9971.3	10013.1
17.5°	8539.4	8644.3	8794.3	8959.2	9141.3	9298.7	9487.2	9668.2	9726.1	9750.7	9757.1
20°	8263.0	8402.3	8564.0	8752.5	8958.1	9140.2	9304.1	9447.6	9453.0	9453.0	9451.9
22.5°	7965.3	8123.8	8298.4	8506.2	8738.6	8921.7	9051.3	9155.2	9127.4	9118.8	9096.3
25°	7647.2	7807.8	7995.3	8225.5	8477.2	8634.7	8721.4	8794.3	8766.4	8749.3	8753.6
27.5°	7307.7	7466.2	7667.5	7914.9	8155.9	8282.3	8354.1	8418.3	8387.3	8406.6	8421.5
30°	6931.7	7103.1	7299.1	7566.9	7789.6	7876.4	7948.1	8014.6	7997.4	8046.7	8179.5
32.5°	6566.5	6718.6	6925.3	7185.6	7379.4	7446.9	7537.9	7593.6	7605.4	7762.9	7878.5
35°	6171.3	6321.2	6529.0	6776.4	6936.0	7007.8	7117.0	7157.7	7299.1	7434.1	7575.4
37.5°	5767.5	5911.0	6115.6	6348.0	6487.3	6566.5	6672.5	6812.9	6949.9	7110.6	7272.3
40°	5360.5	5491.2	5688.3	5898.2	6033.1	6134.9	6265.6	6457.3	6601.9	6785.0	6942.4
42.5°	4952.5	5075.6	5249.1	5435.5	5584.4	5681.8	5903.5	6085.6	6260.2	6449.8	6596.5
45°	4536.9	4634.4	4811.1	4984.6	5152.7	5278.1	5525.5	5717.2	5913.2	6079.2	6210.9
47.5°	4116.0	4207.0	4376.2	4547.6	4726.5	4903.2	5138.8	5354.1	5536.2	5685.1	5809.3
50°	3702.6	3787.2	3947.8	4134.2	4306.6	4519.8	4762.9	4979.2	5141.0	5272.7	5378.7
52.5°	3302.0	3378.0	3534.4	3729.3	3920.0	4137.4	4383.7	4593.7	4742.5	4853.9	4955.7
55°	2915.4	2995.7	3144.6	3336.3	3554.8	3772.2	4017.5	4208.1	4330.2	4439.4	4534.8
57.5°	2545.8	2624.0	2778.3	2971.1	3203.5	3424.1	3659.7	3832.2	3939.3	4044.2	4123.5
60°	2197.8	2278.1	2438.7	2640.1	2876.8	3096.4	3317.0	3466.9	3564.4	3657.6	3713.3
62.5°	1875.4	1955.7	2128.1	2342.4	2574.8	2790.0	2986.0	3112.4	3203.5	3279.5	3308.4
65°	1581.9	1665.5	1843.3	2068.2	2299.5	2505.2	2679.7	2781.5	2852.2	2902.5	2911.1
67.5°	1317.4	1413.8	1589.4	1831.5	2054.2	2243.8	2393.8	2469.8	2522.3	2543.7	2549.1
70°	1083.9	1185.6	1373.1	1617.3	1837.9	2009.3	2119.6	2172.1	2206.3	2218.1	2227.8
72.5°	887.9	988.6	1194.2	1430.9	1647.3	1785.4	1869.0	1902.2	1921.4	1911.8	1896.8
75°	703.7	820.4	1038.9	1273.5	1471.6	1577.6	1633.3	1656.9	1641.9	1615.1	1611.9
77.5°	560.2	674.8	905.0	1136.4	1304.5	1383.8	1420.2	1412.7	1392.3	1372.0	1374.1
80°	430.6	549.4	789.4	1004.6	1140.7	1206.0	1210.3	1199.6	1180.3	1161.0	1161.0
82.5°	320.2	447.7	689.7	869.7	986.4	1023.9	1022.8	1008.9	984.3	961.8	956.4
85°	224.9	358.8	577.3	734.7	827.9	852.5	845.0	827.9	808.6	784.0	778.6
87.5°	145.7	280.6	470.2	592.3	663.0	679.0	669.4	651.2	637.3	616.9	613.7
90°	64.3	196.0	349.2	438.1	492.7	503.4	495.9	484.1	477.7	462.7	462.7
92.5°	41.8	136.0	257.0	338.4	390.9	407.0	399.5	388.8	381.3	369.5	366.3
95°	49.3	108.2	191.7	259.2	311.7	327.7	324.5	317.0	309.5	297.7	292.4
97.5°	53.6	103.9	184.2	230.3	260.3	276.3	271.0	262.4	252.8	239.9	233.5
100°	58.9	107.1	203.5	238.8	253.8	247.4	232.4	222.8	211.0	196.0	189.6
102.5°	65.3	106.0	217.4	263.5	266.7	249.6	221.7	196.0	182.1	167.1	158.5
105°	66.4	101.7	209.9	303.1	291.3	261.3	228.1	198.1	171.4	146.7	138.2
107.5°	68.5	97.5	198.1	319.2	330.9	286.0	235.6	203.5	174.6	145.7	129.6
110°	84.6	97.5	193.9	302.0	360.9	317.0	263.5	208.9	173.5	153.2	132.8



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CATALOG NUMBER: SKB4-LD5-24-N-UNV-L840-CD4-U outer 2 blades tilted out 20 degrees

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	90.0	83.5	189.6	268.8	383.4	358.8	294.5	239.9	184.2	145.7	135.0
115°	95.3	75.0	185.3	238.8	363.1	387.7	327.7	269.9	214.2	169.2	129.6
117.5°	101.7	72.8	186.4	251.7	326.7	418.8	356.7	298.8	244.2	196.0	157.4
120°	107.1	70.7	187.4	263.5	271.0	394.1	404.9	323.5	266.7	222.8	183.1
122.5°	114.6	72.8	175.6	259.2	256.0	353.4	419.8	373.8	287.0	242.1	204.6
125°	120.0	77.1	146.7	256.0	293.5	280.6	394.1	423.1	344.9	260.3	219.6
127.5°	125.3	81.4	115.7	252.8	310.6	241.0	345.9	404.9	393.1	324.5	239.9
130°	128.5	85.7	91.0	253.8	303.1	288.1	259.2	369.5	400.6	373.8	311.7
132.5°	127.5	91.0	65.3	239.9	293.5	328.8	224.9	308.5	374.9	387.7	368.4
135°	124.2	96.4	46.1	198.1	284.9	321.3	278.5	200.3	326.7	364.2	373.8
137.5°	122.1	107.1	43.9	149.9	284.9	307.4	330.9	227.1	224.9	318.1	348.1
140°	118.9	114.6	42.8	107.1	266.7	294.5	323.5	312.7	198.1	216.3	304.2
142.5°	115.7	117.8	45.0	71.8	217.4	287.0	305.2	323.5	267.8	185.3	198.1
145°	111.4	116.7	49.3	35.3	155.3	279.5	288.1	308.5	319.2	253.8	182.1
147.5°	110.3	114.6	56.8	32.1	107.1	230.3	284.9	291.3	308.5	314.9	265.6
150°	108.2	111.4	73.9	34.3	68.5	172.4	266.7	279.5	291.3	305.2	310.6
152.5°	106.0	108.2	93.2	39.6	36.4	115.7	215.3	280.6	277.4	287.0	299.9
155°	103.9	105.0	105.0	47.1	36.4	75.0	146.7	230.3	279.5	273.1	281.7
157.5°	102.8	102.8	112.5	65.3	37.5	34.3	102.8	163.9	227.1	267.8	277.4
160°	101.7	101.7	110.3	90.0	43.9	36.4	40.7	109.2	154.2	211.0	248.5
162.5°	99.6	99.6	102.8	103.9	66.4	38.6	35.3	39.6	98.5	127.5	178.9
165°	98.5	98.5	99.6	110.3	94.3	55.7	37.5	35.3	33.2	54.6	106.0
167.5°	97.5	96.4	97.5	101.7	108.2	90.0	58.9	39.6	34.3	33.2	31.1
170°	96.4	95.3	95.3	96.4	100.7	107.1	94.3	77.1	51.4	38.6	33.2
172.5°	95.3	94.3	94.3	94.3	94.3	96.4	102.8	105.0	95.3	86.8	72.8
175°	94.3	94.3	94.3	94.3	93.2	92.1	92.1	93.2	95.3	96.4	100.7
177.5°	93.2	93.2	93.2	93.2	93.2	92.1	91.0	91.0	90.0	88.9	87.8
180°	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	9301.9	9301.9	9301.9	9301.9	9301.9	9301.9	9301.9	9301.9
2.5°	9520.4	9529.0	9531.1	9539.7	9534.4	9561.1	9563.3	9557.9
5°	9656.5	9678.9	9681.1	9699.3	9702.5	9726.1	9737.8	9733.6
7.5°	9836.4	9898.5	9940.3	9988.5	10007.8	10054.9	10072.0	10070.9
10°	10082.7	10168.4	10230.5	10280.9	10306.6	10344.1	10366.5	10373.0
12.5°	10190.9	10242.3	10259.4	10265.9	10272.3	10280.9	10292.6	10298.0
15°	10022.7	10030.2	10008.8	9976.7	9970.3	9964.9	9973.5	9976.7
17.5°	9740.0	9730.4	9704.6	9684.3	9669.3	9660.7	9655.4	9661.8
20°	9428.3	9396.2	9356.6	9344.8	9335.1	9325.5	9322.3	9329.8
22.5°	9072.7	9055.6	9029.9	9037.4	9049.2	9068.5	9081.3	9090.9
25°	8739.6	8766.4	8840.3	8929.2	8971.0	8989.2	8992.4	9003.1
27.5°	8529.7	8590.8	8641.1	8680.7	8675.4	8669.0	8666.8	8664.7
30°	8274.8	8325.2	8386.2	8461.2	8515.8	8562.9	8592.9	8607.9
32.5°	7988.8	8078.8	8189.1	8319.8	8403.3	8473.0	8513.7	8516.9
35°	7696.5	7786.4	7893.5	7972.8	7978.1	7988.8	7973.9	7964.2
37.5°	7379.4	7465.1	7541.2	7593.6	7566.9	7543.3	7505.8	7497.2
40°	7048.5	7121.3	7175.9	7209.1	7172.7	7143.8	7124.5	7117.0
42.5°	6682.2	6740.0	6776.4	6780.7	6730.4	6706.8	6698.3	6687.5
45°	6284.8	6332.0	6368.4	6367.3	6329.8	6312.7	6303.0	6287.0
47.5°	5863.9	5920.7	5961.4	5944.2	5888.5	5854.3	5822.1	5784.7
50°	5439.8	5482.6	5493.3	5479.4	5403.4	5359.5	5337.0	5316.6
52.5°	5008.2	5036.0	5004.9	4994.2	4933.2	4921.4	4916.1	4898.9
55°	4570.1	4574.4	4521.9	4490.8	4413.7	4393.4	4384.8	4359.1
57.5°	4131.0	4112.8	4048.5	4004.6	3918.9	3853.6	3804.3	3762.5
60°	3699.4	3658.7	3603.0	3551.6	3463.7	3396.3	3349.1	3313.8
62.5°	3274.2	3231.3	3175.6	3125.3	3036.4	2967.8	2931.4	2905.7
65°	2891.8	2853.2	2794.3	2747.2	2663.7	2598.3	2558.7	2531.9
67.5°	2522.3	2497.7	2444.1	2375.6	2285.6	2228.8	2192.4	2165.6
70°	2180.6	2144.2	2087.4	2023.2	1950.4	1905.4	1879.7	1856.1
72.5°	1862.5	1818.6	1779.0	1734.0	1681.5	1645.1	1624.8	1618.3
75°	1589.4	1561.6	1529.4	1497.3	1456.6	1425.5	1405.2	1400.9
77.5°	1359.1	1337.7	1312.0	1286.3	1247.8	1219.9	1201.7	1193.1
80°	1144.9	1124.6	1100.0	1075.3	1041.0	1016.4	1000.3	992.8
82.5°	946.8	926.4	907.2	889.0	866.5	840.8	826.8	822.6
85°	769.0	754.0	741.2	728.3	709.0	688.7	675.8	671.5
87.5°	610.5	605.1	595.5	586.9	571.9	554.8	544.1	539.8
90°	460.5	456.3	452.0	445.6	433.8	419.8	411.3	408.1
92.5°	364.2	360.9	357.7	352.4	343.8	332.0	323.5	320.2
95°	291.3	289.2	284.9	280.6	273.1	265.6	258.1	253.8
97.5°	230.3	229.2	226.0	223.8	219.6	211.0	204.6	200.3
100°	184.2	182.1	179.9	176.7	172.4	164.9	160.7	156.4
102.5°	153.2	151.0	147.8	144.6	140.3	135.0	129.6	126.4
105°	130.7	127.5	125.3	122.1	117.8	112.5	107.1	105.0
107.5°	115.7	114.6	109.2	106.0	100.7	97.5	93.2	88.9
110°	118.9	113.5	99.6	92.1	88.9	90.0	85.7	81.4





TEST NUMBER: P236503

CATALOG NUMBER: SKB4-LD5-24-N-UNV-L840-CD4-U outer 2 blades tilted out 20 degrees

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	124.2	112.5	102.8	99.6	97.5	94.3	84.6	80.3
115°	113.5	111.4	108.2	101.7	97.5	91.0	84.6	80.3
117.5°	124.2	103.9	94.3	91.0	91.0	91.0	86.8	82.5
120°	149.9	127.5	107.1	93.2	85.7	80.3	73.9	69.6
122.5°	173.5	147.8	128.5	115.7	107.1	97.5	90.0	84.6
125°	190.6	168.2	148.9	136.0	126.4	115.7	108.2	102.8
127.5°	203.5	182.1	164.9	154.2	144.6	135.0	127.5	122.1
130°	232.4	194.9	178.9	168.2	158.5	151.0	143.5	139.2
132.5°	301.0	256.0	201.4	181.0	169.2	162.8	156.4	148.9
135°	371.6	302.0	277.4	246.3	205.6	184.2	172.4	166.0
137.5°	356.7	363.1	353.4	289.2	268.8	258.1	249.6	245.3
140°	330.9	344.9	350.2	352.4	350.2	342.7	325.6	307.4
142.5°	282.8	310.6	326.7	332.0	333.1	332.0	328.8	324.5
145°	157.4	247.4	281.7	298.8	308.5	310.6	310.6	307.4
147.5°	190.6	159.6	155.3	228.1	258.1	271.0	272.0	273.1
150°	302.0	220.6	182.1	159.6	146.7	136.0	133.9	133.9
152.5°	306.3	307.4	301.0	243.1	200.3	177.8	166.0	159.6
155°	290.3	298.8	305.2	306.3	305.2	302.0	296.7	290.3
157.5°	275.3	279.5	288.1	291.3	292.4	292.4	289.2	287.0
160°	278.5	280.6	273.1	275.3	275.3	276.3	273.1	272.0
162.5°	216.3	242.1	261.3	274.2	280.6	276.3	271.0	265.6
165°	126.4	154.2	187.4	204.6	216.3	223.8	215.3	198.1
167.5°	38.6	67.5	98.5	111.4	117.8	117.8	108.2	103.9
170°	32.1	31.1	30.0	30.0	28.9	27.8	24.6	27.8
172.5°	58.9	49.3	39.6	37.5	36.4	32.1	30.0	26.8
175°	100.7	97.5	96.4	96.4	97.5	97.5	97.5	92.1
177.5°	86.8	86.8	90.0	92.1	95.3	98.5	93.2	90.0
180°	91.0	91.0	91.0	91.0	91.0	91.0	91.0	91.0

(END OF REPORT)