

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: P236504

Luminaire Tested: **SKB4-LD5-24-N-UNV-L850-CD4-U outer 2 blades tilted out 20 degrees**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P236504  
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-L850-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) 5000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

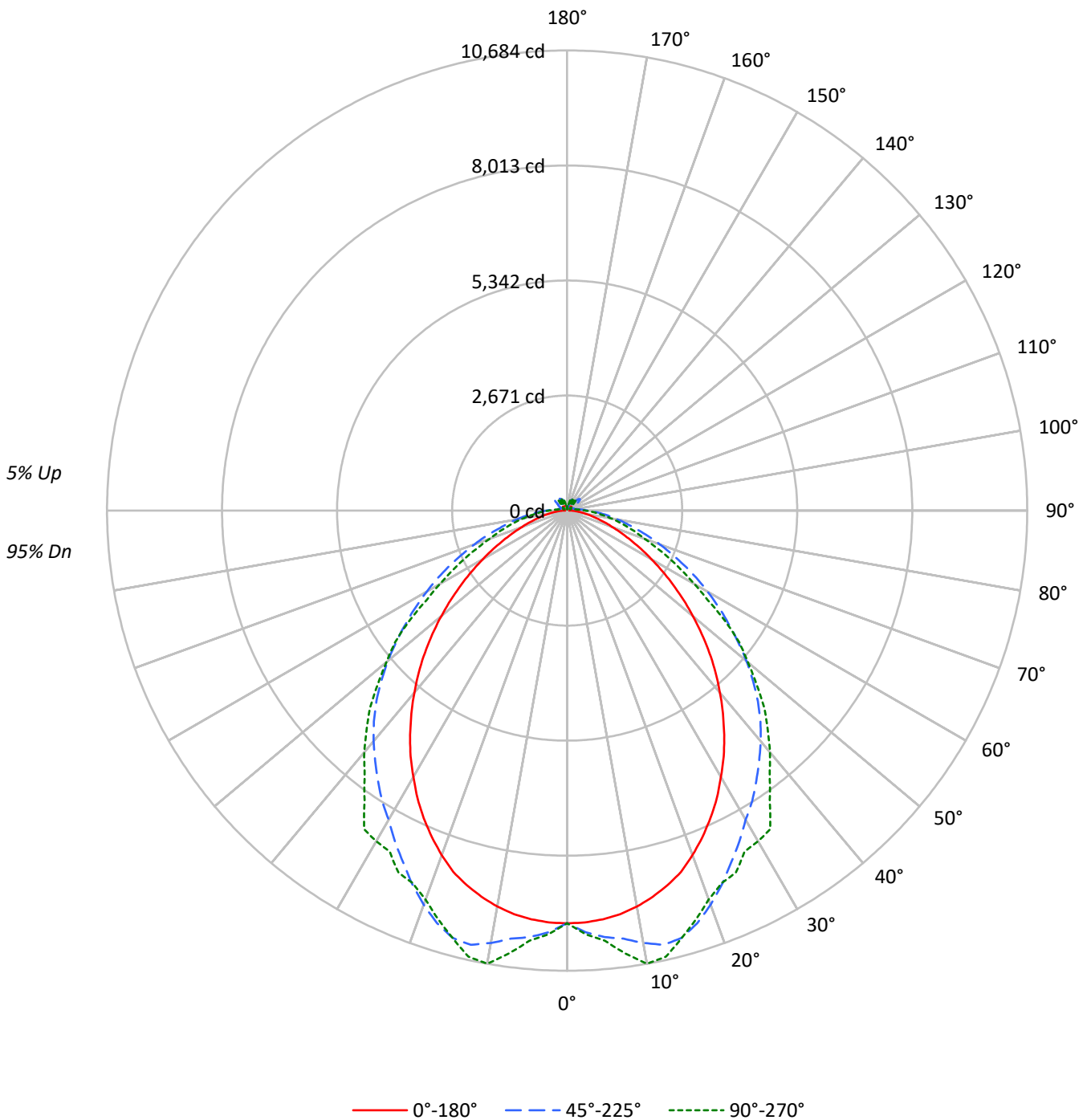
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 27277.0 lumens  
Efficiency: N/A  
Efficacy: 132.3 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 (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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CATALOG NUMBER: SKB4-LD5-24-N-UNV-L850-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	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	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	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	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	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	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	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	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	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	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	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	25	25	25	25	25	25																

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

	0°	45°	90°
0°	13750	13750	13750
5°	13661	14175	14304
10°	13480	14557	15271
15°	13192	14802	14827
20°	12757	14271	14106
25°	12177	13542	13961
30°	11486	12877	13807
35°	10745	12412	13335
40°	9911	11937	12562
45°	9015	11394	11829
50°	8017	10660	10797
55°	6993	9822	9696
60°	5960	9012	8216
65°	4977	8138	7152
70°	4098	7279	6146
75°	3365	6448	5656
80°	2830	5974	5185
85°	2392	5734	5018



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	950.2	3.5
10°-20°	2798.2	10.3
20°-30°	4092.3	15.0
30°-40°	4736.4	17.4
40°-50°	4584.1	16.8
50°-60°	3754.7	13.8
60°-70°	2603.4	9.5
70°-80°	1581.5	5.8
80°-90°	813.4	3.0
90°-100°	319.1	1.2
100°-110°	185.4	0.7
110°-120°	180.3	0.7
120°-130°	193.4	0.7
130°-140°	196.2	0.7
140°-150°	148.3	0.5
150°-160°	95.1	0.3
160°-170°	37.4	0.1
170°-180°	7.6	0.0
0°-30°	7840.7	28.7
0°-40°	12577.1	46.1
0°-60°	20915.9	76.7
0°-90°	25914.2	95.0
90°-120°	684.8	2.5
90°-150°	1222.7	4.5
90°-180°	1363.0	5.0
0°-180°	27277.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	9581	9581	9581	9581	9581	
5°	9526	9783	9938	9981	10025	903
15°	9003	9623	10270	10292	10276	2533
25°	7876	8812	9012	9151	9273	3619
35°	6356	7181	7657	8171	8203	3968
45°	4673	5372	6262	6559	6476	3599
55°	3003	3773	4572	4642	4490	2693
65°	1629	2474	2990	2854	2608	1633
75°	725	1570	1664	1559	1443	790
85°	232	865	808	757	692	233
90°	66	513	477	462	420	45
95°	51	329	307	291	261	43
105°	68	285	151	127	108	74
115°	98	387	174	108	83	98
125°	124	296	268	147	106	110
135°	128	312	375	270	171	99
145°	115	224	261	299	317	73
155°	107	57	281	315	299	50
165°	102	77	56	202	204	29
175°	97	95	99	99	95	9
180°	94	94	94	94	94	



TEST NUMBER: P236504

CATALOG NUMBER: SKB4-LD5-24-N-UNV-L850-CD4-U outer 2 blades tilted out 20 degrees

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	9580.8	9580.8	9580.8	9580.8	9580.8	9580.8	9580.8	9580.8	9580.8	9580.8	9580.8
2.5°	9572.0	9565.4	9601.8	9645.9	9691.1	9683.4	9719.8	9766.2	9768.4	9798.1	9809.2
5°	9525.7	9534.5	9612.8	9698.9	9776.1	9790.4	9843.4	9902.9	9909.6	9938.2	9948.2
7.5°	9449.5	9479.3	9600.7	9713.2	9802.6	9814.7	9857.7	9930.5	9964.7	10026.5	10080.5
10°	9334.8	9396.6	9546.6	9656.9	9740.8	9779.4	9867.6	9991.2	10071.7	10192.0	10293.5
12.5°	9183.7	9267.5	9426.4	9538.9	9659.1	9745.2	9882.0	10064.0	10186.5	10326.6	10431.3
15°	9002.8	9108.7	9259.8	9398.8	9558.8	9687.8	9864.3	10076.1	10189.8	10270.3	10313.3
17.5°	8795.4	8903.5	9057.9	9227.8	9415.4	9577.5	9771.7	9958.1	10017.7	10043.0	10049.7
20°	8510.8	8654.2	8820.8	9014.9	9226.7	9414.2	9583.0	9730.9	9736.4	9736.4	9735.3
22.5°	8204.1	8367.4	8547.2	8761.2	9000.6	9189.2	9322.7	9429.7	9401.0	9392.2	9369.0
25°	7876.5	8041.9	8235.0	8472.2	8731.4	8893.6	8982.9	9057.9	9029.3	9011.6	9016.0
27.5°	7526.8	7690.0	7897.4	8152.2	8400.5	8530.6	8604.5	8670.7	8638.7	8658.6	8674.0
30°	7139.6	7316.1	7517.9	7793.7	8023.2	8112.5	8186.4	8254.8	8237.2	8287.9	8424.7
32.5°	6763.4	6920.0	7132.9	7401.0	7600.7	7670.2	7763.9	7821.3	7833.4	7995.6	8114.7
35°	6356.3	6510.8	6724.8	6979.6	7144.0	7217.9	7330.4	7372.3	7517.9	7656.9	7802.6
37.5°	5940.4	6088.3	6299.0	6538.3	6681.8	6763.4	6872.6	7017.1	7158.3	7323.8	7490.4
40°	5521.2	5655.8	5858.8	6075.0	6214.0	6318.8	6453.4	6650.9	6799.8	6988.4	7150.6
42.5°	5100.9	5227.8	5406.5	5598.5	5751.8	5852.2	6080.5	6268.1	6447.9	6643.1	6794.3
45°	4672.9	4773.3	4955.3	5134.0	5307.2	5436.3	5691.1	5888.6	6090.5	6261.5	6397.1
47.5°	4239.4	4333.2	4507.5	4684.0	4868.2	5050.2	5292.9	5514.6	5702.2	5855.5	5983.5
50°	3813.6	3900.7	4066.2	4258.1	4435.8	4655.3	4905.7	5128.5	5295.1	5430.8	5540.0
52.5°	3401.0	3479.3	3640.4	3841.2	4037.5	4261.5	4515.2	4731.4	4884.7	4999.5	5104.3
55°	3002.8	3085.5	3238.8	3436.3	3661.3	3885.3	4137.9	4334.3	4460.0	4572.5	4670.7
57.5°	2622.2	2702.7	2861.6	3060.1	3299.5	3526.8	3769.5	3947.1	4057.4	4165.5	4247.1
60°	2263.7	2346.4	2511.9	2719.3	2963.1	3189.2	3416.4	3570.9	3671.3	3767.2	3824.6
62.5°	1931.6	2014.3	2192.0	2412.6	2652.0	2873.7	3075.6	3205.7	3299.5	3377.8	3407.6
65°	1629.3	1715.4	1898.5	2130.2	2368.5	2580.3	2760.1	2864.9	2937.7	2989.5	2998.4
67.5°	1356.9	1456.2	1637.1	1886.4	2115.8	2311.1	2465.5	2543.9	2597.9	2620.0	2625.5
70°	1116.4	1221.2	1414.2	1665.8	1893.0	2069.5	2183.1	2237.2	2272.5	2284.6	2294.5
72.5°	914.5	1018.2	1230.0	1473.8	1696.6	1838.9	1925.0	1959.2	1979.0	1969.1	1953.7
75°	724.8	845.0	1070.1	1311.6	1515.7	1624.9	1682.3	1706.6	1691.1	1663.5	1660.2
77.5°	576.9	695.0	932.2	1170.4	1343.6	1425.3	1462.8	1455.0	1434.1	1413.1	1415.3
80°	443.5	565.9	813.0	1034.8	1174.9	1242.1	1246.6	1235.5	1215.7	1195.8	1195.8
82.5°	329.8	461.1	710.4	895.8	1016.0	1054.6	1053.5	1039.2	1013.8	990.6	985.1
85°	231.7	369.6	594.6	756.8	852.7	878.1	870.4	852.7	832.9	807.5	802.0
87.5°	150.0	289.0	484.3	610.0	682.8	699.4	689.5	670.7	656.4	635.4	632.1
90°	66.2	201.9	359.6	451.2	507.4	518.5	510.8	498.6	492.0	476.6	476.6
92.5°	43.0	140.1	264.8	348.6	402.6	419.2	411.5	400.4	392.7	380.6	377.3
95°	50.7	111.4	197.5	267.0	321.0	337.6	334.3	326.5	318.8	306.7	301.2
97.5°	55.2	107.0	189.7	237.2	268.1	284.6	279.1	270.3	260.3	247.1	240.5
100°	60.7	110.3	209.6	246.0	261.4	254.8	239.4	229.5	217.3	201.9	195.3
102.5°	67.3	109.2	223.9	271.4	274.7	257.0	228.4	201.9	187.5	172.1	163.3
105°	68.4	104.8	216.2	312.2	300.1	269.2	235.0	204.1	176.5	151.1	142.3
107.5°	70.6	100.4	204.1	328.7	340.9	294.5	242.7	209.6	179.8	150.0	133.5
110°	87.1	100.4	199.7	311.1	371.8	326.5	271.4	215.1	178.7	157.7	136.8



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CATALOG NUMBER: SKB4-LD5-24-N-UNV-L850-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°	92.7	86.0	195.3	276.9	394.9	369.6	303.4	247.1	189.7	150.0	139.0
115°	98.2	77.2	190.8	246.0	374.0	399.3	337.6	278.0	220.6	174.3	133.5
117.5°	104.8	75.0	191.9	259.2	336.5	431.3	367.3	307.8	251.5	201.9	162.2
120°	110.3	72.8	193.1	271.4	279.1	406.0	417.0	333.2	274.7	229.5	188.6
122.5°	118.0	75.0	180.9	267.0	263.7	364.0	432.4	385.0	295.6	249.3	210.7
125°	123.6	79.4	151.1	263.7	302.3	289.0	406.0	435.7	355.2	268.1	226.1
127.5°	129.1	83.8	119.1	260.3	319.9	248.2	356.3	417.0	404.9	334.3	247.1
130°	132.4	88.3	93.8	261.4	312.2	296.7	267.0	380.6	412.6	385.0	321.0
132.5°	131.3	93.8	67.3	247.1	302.3	338.7	231.7	317.7	386.1	399.3	379.5
135°	128.0	99.3	47.4	204.1	293.4	330.9	286.8	206.3	336.5	375.1	385.0
137.5°	125.8	110.3	45.2	154.4	293.4	316.6	340.9	233.9	231.7	327.6	358.5
140°	122.4	118.0	44.1	110.3	274.7	303.4	333.2	322.1	204.1	222.8	313.3
142.5°	119.1	121.3	46.3	73.9	223.9	295.6	314.4	333.2	275.8	190.8	204.1
145°	114.7	120.2	50.7	36.4	160.0	287.9	296.7	317.7	328.7	261.4	187.5
147.5°	113.6	118.0	58.5	33.1	110.3	237.2	293.4	300.1	317.7	324.3	273.6
150°	111.4	114.7	76.1	35.3	70.6	177.6	274.7	287.9	300.1	314.4	319.9
152.5°	109.2	111.4	96.0	40.8	37.5	119.1	221.7	289.0	285.7	295.6	308.9
155°	107.0	108.1	108.1	48.5	37.5	77.2	151.1	237.2	287.9	281.3	290.1
157.5°	105.9	105.9	115.8	67.3	38.6	35.3	105.9	168.8	233.9	275.8	285.7
160°	104.8	104.8	113.6	92.7	45.2	37.5	41.9	112.5	158.9	217.3	255.9
162.5°	102.6	102.6	105.9	107.0	68.4	39.7	36.4	40.8	101.5	131.3	184.2
165°	101.5	101.5	102.6	113.6	97.1	57.4	38.6	36.4	34.2	56.3	109.2
167.5°	100.4	99.3	100.4	104.8	111.4	92.7	60.7	40.8	35.3	34.2	32.0
170°	99.3	98.2	98.2	99.3	103.7	110.3	97.1	79.4	53.0	39.7	34.2
172.5°	98.2	97.1	97.1	97.1	97.1	99.3	105.9	108.1	98.2	89.4	75.0
175°	97.1	97.1	97.1	97.1	96.0	94.9	94.9	96.0	98.2	99.3	103.7
177.5°	96.0	96.0	96.0	96.0	96.0	94.9	93.8	93.8	92.7	91.6	90.5
180°	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8



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CATALOG NUMBER: SKB4-LD5-24-N-UNV-L850-CD4-U outer 2 blades tilted out 20 degrees

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	9580.8	9580.8	9580.8	9580.8	9580.8	9580.8	9580.8	9580.8
2.5°	9805.9	9814.7	9816.9	9825.7	9820.2	9847.8	9850.0	9844.5
5°	9946.0	9969.1	9971.3	9990.1	9993.4	10017.7	10029.8	10025.4
7.5°	10131.3	10195.3	10238.3	10287.9	10307.8	10356.3	10374.0	10372.9
10°	10385.0	10473.3	10537.3	10589.1	10615.6	10654.2	10677.4	10684.0
12.5°	10496.4	10549.4	10567.0	10573.7	10580.3	10589.1	10601.2	10606.8
15°	10323.2	10331.0	10308.9	10275.8	10269.2	10263.7	10272.5	10275.8
17.5°	10032.0	10022.1	9995.6	9974.6	9959.2	9950.4	9944.9	9951.5
20°	9711.0	9677.9	9637.1	9624.9	9615.0	9605.1	9601.8	9609.5
22.5°	9344.8	9327.1	9300.6	9308.3	9320.5	9340.3	9353.6	9363.5
25°	9001.7	9029.3	9105.4	9196.9	9240.0	9258.7	9262.0	9273.0
27.5°	8785.5	8848.3	8900.2	8941.0	8935.5	8928.9	8926.7	8924.5
30°	8522.9	8574.8	8637.6	8714.9	8771.1	8819.7	8850.5	8866.0
32.5°	8228.4	8321.0	8434.7	8569.2	8655.3	8727.0	8768.9	8772.2
35°	7927.2	8019.9	8130.2	8211.8	8217.3	8228.4	8212.9	8203.0
37.5°	7600.7	7688.9	7767.3	7821.3	7793.7	7769.5	7730.8	7722.0
40°	7259.8	7334.8	7391.1	7425.3	7387.8	7358.0	7338.1	7330.4
42.5°	6882.5	6942.1	6979.6	6984.0	6932.2	6907.9	6899.1	6888.0
45°	6473.3	6521.8	6559.3	6558.2	6519.6	6501.9	6492.0	6475.5
47.5°	6039.7	6098.2	6140.1	6122.5	6065.1	6029.8	5996.7	5958.1
50°	5602.9	5647.0	5658.0	5643.7	5565.4	5520.1	5497.0	5476.0
52.5°	5158.3	5187.0	5155.0	5144.0	5081.1	5069.0	5063.4	5045.8
55°	4707.1	4711.5	4657.5	4625.5	4546.1	4525.1	4516.3	4489.8
57.5°	4254.8	4236.1	4169.9	4124.7	4036.4	3969.1	3918.4	3875.4
60°	3810.3	3768.3	3711.0	3658.0	3567.6	3498.1	3449.5	3413.1
62.5°	3372.3	3328.2	3270.8	3219.0	3127.4	3056.8	3019.3	2992.8
65°	2978.5	2938.8	2878.1	2829.6	2743.5	2676.2	2635.4	2607.8
67.5°	2597.9	2572.5	2517.4	2446.8	2354.1	2295.6	2258.1	2230.6
70°	2246.0	2208.5	2150.0	2083.8	2008.8	1962.5	1936.0	1911.8
72.5°	1918.4	1873.1	1832.3	1786.0	1731.9	1694.4	1673.5	1666.9
75°	1637.1	1608.4	1575.3	1542.2	1500.3	1468.3	1447.3	1442.9
77.5°	1399.9	1377.8	1351.4	1324.9	1285.2	1256.5	1237.7	1228.9
80°	1179.3	1158.3	1132.9	1107.6	1072.3	1046.9	1030.3	1022.6
82.5°	975.2	954.2	934.4	915.6	892.4	866.0	851.6	847.2
85°	792.1	776.6	763.4	750.1	730.3	709.3	696.1	691.7
87.5°	628.8	623.3	613.3	604.5	589.1	571.4	560.4	556.0
90°	474.4	469.9	465.5	458.9	446.8	432.4	423.6	420.3
92.5°	375.1	371.8	368.5	362.9	354.1	342.0	333.2	329.8
95°	300.1	297.8	293.4	289.0	281.3	273.6	265.9	261.4
97.5°	237.2	236.1	232.8	230.6	226.1	217.3	210.7	206.3
100°	189.7	187.5	185.3	182.0	177.6	169.9	165.5	161.1
102.5°	157.7	155.5	152.2	148.9	144.5	139.0	133.5	130.2
105°	134.6	131.3	129.1	125.8	121.3	115.8	110.3	108.1
107.5°	119.1	118.0	112.5	109.2	103.7	100.4	96.0	91.6
110°	122.4	116.9	102.6	94.9	91.6	92.7	88.3	83.8





TEST NUMBER: P236504

CATALOG NUMBER: SKB4-LD5-24-N-UNV-L850-CD4-U outer 2 blades tilted out 20 degrees

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	128.0	115.8	105.9	102.6	100.4	97.1	87.1	82.7
115°	116.9	114.7	111.4	104.8	100.4	93.8	87.1	82.7
117.5°	128.0	107.0	97.1	93.8	93.8	93.8	89.4	84.9
120°	154.4	131.3	110.3	96.0	88.3	82.7	76.1	71.7
122.5°	178.7	152.2	132.4	119.1	110.3	100.4	92.7	87.1
125°	196.4	173.2	153.3	140.1	130.2	119.1	111.4	105.9
127.5°	209.6	187.5	169.9	158.9	148.9	139.0	131.3	125.8
130°	239.4	200.8	184.2	173.2	163.3	155.5	147.8	143.4
132.5°	310.0	263.7	207.4	186.4	174.3	167.7	161.1	153.3
135°	382.8	311.1	285.7	253.7	211.8	189.7	177.6	171.0
137.5°	367.3	374.0	364.0	297.8	276.9	265.9	257.0	252.6
140°	340.9	355.2	360.7	362.9	360.7	353.0	335.4	316.6
142.5°	291.2	319.9	336.5	342.0	343.1	342.0	338.7	334.3
145°	162.2	254.8	290.1	307.8	317.7	319.9	319.9	316.6
147.5°	196.4	164.4	160.0	235.0	265.9	279.1	280.2	281.3
150°	311.1	227.2	187.5	164.4	151.1	140.1	137.9	137.9
152.5°	315.5	316.6	310.0	250.4	206.3	183.1	171.0	164.4
155°	299.0	307.8	314.4	315.5	314.4	311.1	305.6	299.0
157.5°	283.5	287.9	296.7	300.1	301.2	301.2	297.8	295.6
160°	286.8	289.0	281.3	283.5	283.5	284.6	281.3	280.2
162.5°	222.8	249.3	269.2	282.4	289.0	284.6	279.1	273.6
165°	130.2	158.9	193.1	210.7	222.8	230.6	221.7	204.1
167.5°	39.7	69.5	101.5	114.7	121.3	121.3	111.4	107.0
170°	33.1	32.0	30.9	30.9	29.8	28.7	25.4	28.7
172.5°	60.7	50.7	40.8	38.6	37.5	33.1	30.9	27.6
175°	103.7	100.4	99.3	99.3	100.4	100.4	100.4	94.9
177.5°	89.4	89.4	92.7	94.9	98.2	101.5	96.0	92.7
180°	93.8	93.8	93.8	93.8	93.8	93.8	93.8	93.8

(END OF REPORT)