

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: P236502

Luminaire Tested: **SKB4-LD5-24-N-UNV-L835-CD4-U outer 2 blades tilted out 20 degrees**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236502
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-L835-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) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

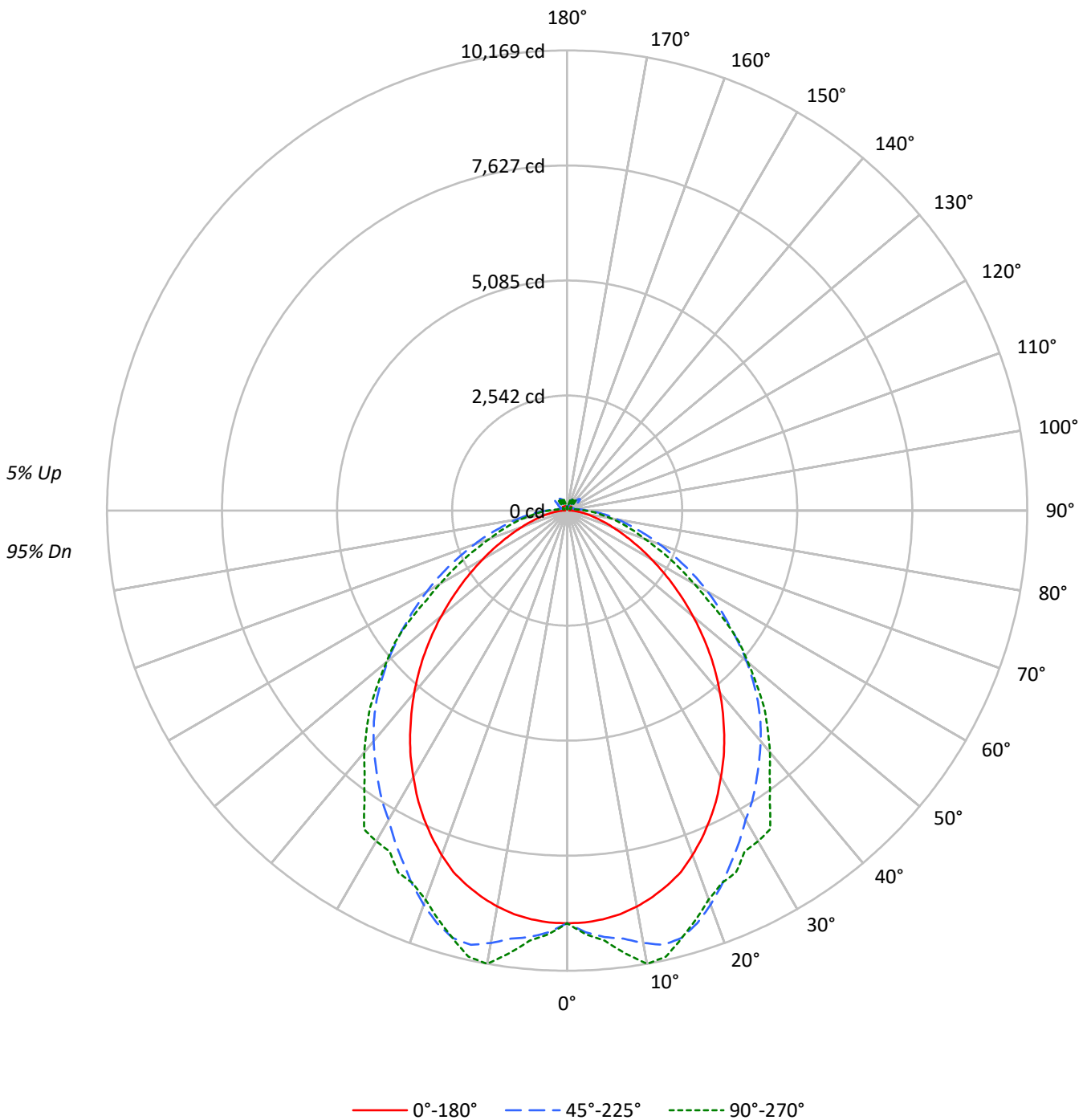
Lumens per Lamp: N/A
Luminaire Lumens: 25963.2 lumens
Efficiency: N/A
Efficacy: 125.9 lumens/watt
Spacing Criteria (0/90/45): 1.13 / 1.35 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 1.88' x L: 4' x H: 0.21')
CIE Type: Direct

Input Watts (W): 206.2
Input Voltage (V): 120
Input Current (A_{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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CATALOG NUMBER: SKB4-LD5-24-N-UNV-L835-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	0
RCR																		
0	118	118	118	118	115	115	115	115	108	108	108	103	103	103	97	97	97	95
1	108	103	99	95	104	100	96	93	95	92	89	90	88	85	86	84	82	79
2	98	90	83	78	95	88	82	77	84	78	74	80	75	72	76	72	69	67
3	90	80	72	65	87	78	70	64	74	68	63	71	65	61	67	63	59	57
4	83	71	62	56	80	69	61	55	66	59	54	63	57	53	61	56	51	49
5	76	64	55	48	74	62	54	48	60	52	47	57	51	46	55	49	45	43
6	70	57	49	43	68	56	48	42	54	47	41	52	45	41	50	44	40	38
7	65	52	44	38	63	51	43	37	49	42	37	47	41	36	46	40	36	34
8	61	48	39	34	59	47	39	34	45	38	33	44	37	33	42	36	32	30
9	57	44	36	30	55	43	36	30	42	35	30	40	34	29	39	33	29	27
10	54	41	33	28	52	40	33	28	39	32	27	37	31	27	36	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13088	13088	13088
5°	13003	13492	13615
10°	12831	13856	14535
15°	12557	14089	14112
20°	12142	13583	13427
25°	11590	12889	13288
30°	10933	12257	13142
35°	10227	11814	12692
40°	9434	11362	11957
45°	8581	10845	11259
50°	7631	10146	10277
55°	6656	9349	9229
60°	5673	8578	7820
65°	4738	7746	6807
70°	3901	6928	5850
75°	3203	6137	5383
80°	2693	5686	4935
85°	2276	5458	4776



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	904.5	3.5
10°-20°	2663.4	10.3
20°-30°	3895.1	15.0
30°-40°	4508.2	17.4
40°-50°	4363.3	16.8
50°-60°	3573.8	13.8
60°-70°	2478.0	9.5
70°-80°	1505.4	5.8
80°-90°	774.3	3.0
90°-100°	303.7	1.2
100°-110°	176.5	0.7
110°-120°	171.6	0.7
120°-130°	184.1	0.7
130°-140°	186.8	0.7
140°-150°	141.1	0.5
150°-160°	90.5	0.3
160°-170°	35.6	0.1
170°-180°	7.3	0.0
0°-30°	7463.0	28.7
0°-40°	11971.2	46.1
0°-60°	19908.3	76.7
0°-90°	24665.9	95.0
90°-120°	651.9	2.5
90°-150°	1163.9	4.5
90°-180°	1297.0	5.0
0°-180°	25963.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9119	9119	9119	9119	9119	
5°	9067	9312	9460	9500	9542	860
15°	8569	9160	9776	9797	9781	2411
25°	7497	8388	8578	8710	8826	3444
35°	6050	6835	7288	7777	7808	3777
45°	4448	5113	5960	6243	6164	3425
55°	2858	3592	4352	4418	4274	2563
65°	1551	2355	2846	2716	2482	1554
75°	690	1495	1583	1484	1373	752
85°	220	824	769	720	658	222
90°	63	488	454	440	400	42
95°	48	313	292	277	249	41
105°	65	271	144	121	103	70
115°	94	368	166	103	79	93
125°	118	281	255	140	101	105
135°	122	297	357	257	163	95
145°	109	213	249	285	301	70
155°	102	55	268	300	285	47
165°	97	74	54	192	194	27
175°	92	91	94	94	90	9
180°	89	89	89	89	89	



TEST NUMBER: P236502

CATALOG NUMBER: SKB4-LD5-24-N-UNV-L835-CD4-U outer 2 blades tilted out 20 degrees

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	9119.3	9119.3	9119.3	9119.3	9119.3	9119.3	9119.3	9119.3	9119.3	9119.3	9119.3
2.5°	9110.9	9104.6	9139.2	9181.2	9224.3	9216.9	9251.6	9295.7	9297.8	9326.1	9336.6
5°	9066.8	9075.2	9149.7	9231.6	9305.1	9318.8	9369.2	9425.9	9432.2	9459.5	9468.9
7.5°	8994.3	9022.7	9138.2	9245.3	9330.3	9341.9	9382.8	9452.1	9484.7	9543.5	9594.9
10°	8885.1	8943.9	9086.7	9191.7	9271.5	9308.3	9392.3	9509.9	9586.5	9701.0	9797.6
12.5°	8741.3	8821.1	8972.3	9079.4	9193.8	9275.7	9405.9	9579.2	9695.7	9829.1	9928.8
15°	8569.1	8669.9	8813.7	8946.0	9098.3	9221.1	9389.1	9590.7	9698.9	9775.5	9816.5
17.5°	8371.7	8474.6	8621.6	8783.3	8961.8	9116.1	9300.9	9478.4	9535.1	9559.2	9565.5
20°	8100.8	8237.3	8395.8	8580.6	8782.2	8960.7	9121.4	9262.1	9267.3	9267.3	9266.3
22.5°	7808.9	7964.3	8135.4	8339.1	8567.0	8746.5	8873.6	8975.4	8948.1	8939.7	8917.7
25°	7497.0	7654.5	7838.3	8064.0	8310.8	8465.1	8550.2	8621.6	8594.3	8577.5	8581.7
27.5°	7164.2	7319.6	7517.0	7759.5	7995.8	8119.7	8190.0	8253.0	8222.6	8241.5	8256.2
30°	6795.6	6963.6	7155.8	7418.3	7636.7	7721.7	7792.1	7857.2	7840.4	7888.7	8018.9
32.5°	6437.6	6586.7	6789.3	7044.5	7234.5	7300.7	7389.9	7444.5	7456.1	7610.4	7723.8
35°	6050.1	6197.1	6400.8	6643.4	6799.8	6870.2	6977.3	7017.2	7155.8	7288.1	7426.7
37.5°	5654.3	5795.0	5995.5	6223.4	6359.9	6437.6	6541.5	6679.1	6813.5	6971.0	7129.5
40°	5255.3	5383.4	5576.6	5782.4	5914.7	6014.4	6142.5	6330.5	6472.2	6651.8	6806.1
42.5°	4855.2	4976.0	5146.1	5328.8	5474.7	5570.3	5787.6	5966.1	6137.3	6323.1	6467.0
45°	4447.8	4543.4	4716.6	4886.7	5051.6	5174.4	5417.0	5604.9	5797.1	5959.8	6089.0
47.5°	4035.2	4124.4	4290.3	4458.3	4633.7	4806.9	5037.9	5249.0	5427.5	5573.4	5695.2
50°	3629.9	3712.8	3870.3	4053.0	4222.1	4431.0	4669.4	4881.5	5040.0	5169.2	5273.1
52.5°	3237.2	3311.7	3465.0	3656.1	3843.0	4056.2	4297.7	4503.5	4649.4	4758.6	4858.4
55°	2858.1	2936.9	3082.8	3270.8	3485.0	3698.1	3938.6	4125.5	4245.2	4352.3	4445.7
57.5°	2495.9	2572.5	2723.7	2912.7	3140.6	3356.9	3587.9	3756.9	3861.9	3964.8	4042.5
60°	2154.6	2233.4	2390.9	2588.3	2820.3	3035.6	3251.9	3398.9	3494.4	3585.8	3640.4
62.5°	1838.6	1917.3	2086.4	2296.4	2524.2	2735.3	2927.4	3051.3	3140.6	3215.1	3243.5
65°	1550.9	1632.8	1807.1	2027.6	2254.4	2456.0	2627.1	2726.9	2796.2	2845.5	2853.9
67.5°	1291.5	1386.0	1558.2	1795.5	2013.9	2199.8	2346.8	2421.3	2472.8	2493.8	2499.0
70°	1062.6	1162.4	1346.1	1585.5	1801.8	1969.8	2078.0	2129.4	2163.0	2174.6	2184.0
72.5°	870.5	969.2	1170.8	1402.8	1614.9	1750.4	1832.3	1864.8	1883.7	1874.3	1859.6
75°	689.9	804.3	1018.5	1248.5	1442.7	1546.7	1601.3	1624.4	1609.7	1583.4	1580.3
77.5°	549.2	661.5	887.3	1114.1	1278.9	1356.6	1392.3	1385.0	1365.0	1345.1	1347.2
80°	422.1	538.7	773.9	984.9	1118.3	1182.3	1186.5	1176.0	1157.1	1138.2	1138.2
82.5°	314.0	438.9	676.2	852.6	967.1	1003.8	1002.8	989.1	965.0	942.9	937.7
85°	220.5	351.8	566.0	720.3	811.7	835.8	828.5	811.7	792.8	768.6	763.4
87.5°	142.8	275.1	461.0	580.7	650.0	665.7	656.3	638.4	624.8	604.8	601.7
90°	63.0	192.2	342.3	429.5	483.0	493.5	486.2	474.6	468.3	453.6	453.6
92.5°	41.0	133.4	252.0	331.8	383.3	399.0	391.7	381.2	373.8	362.3	359.1
95°	48.3	106.1	188.0	254.1	305.6	321.3	318.2	310.8	303.5	291.9	286.7
97.5°	52.5	101.9	180.6	225.8	255.2	270.9	265.7	257.3	247.8	235.2	228.9
100°	57.8	105.0	199.5	234.2	248.9	242.6	227.9	218.4	206.9	192.2	185.9
102.5°	64.1	104.0	213.2	258.3	261.5	244.7	217.4	192.2	178.5	163.8	155.4
105°	65.1	99.8	205.8	297.2	285.6	256.2	223.7	194.3	168.0	143.9	135.5
107.5°	67.2	95.6	194.3	312.9	324.5	280.4	231.0	199.5	171.2	142.8	127.1
110°	83.0	95.6	190.1	296.1	353.9	310.8	258.3	204.8	170.1	150.2	130.2



TEST NUMBER: P236502

CATALOG NUMBER: SKB4-LD5-24-N-UNV-L835-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°	88.2	81.9	185.9	263.6	375.9	351.8	288.8	235.2	180.6	142.8	132.3
115°	93.5	73.5	181.7	234.2	356.0	380.1	321.3	264.6	210.0	165.9	127.1
117.5°	99.8	71.4	182.7	246.8	320.3	410.6	349.7	293.0	239.4	192.2	154.4
120°	105.0	69.3	183.8	258.3	265.7	386.4	396.9	317.1	261.5	218.4	179.6
122.5°	112.4	71.4	172.2	254.1	251.0	346.5	411.6	366.5	281.4	237.3	200.6
125°	117.6	75.6	143.9	251.0	287.7	275.1	386.4	414.8	338.1	255.2	215.3
127.5°	122.9	79.8	113.4	247.8	304.5	236.3	339.2	396.9	385.4	318.2	235.2
130°	126.0	84.0	89.3	248.9	297.2	282.5	254.1	362.3	392.7	366.5	305.6
132.5°	125.0	89.3	64.1	235.2	287.7	322.4	220.5	302.4	367.5	380.1	361.2
135°	121.8	94.5	45.2	194.3	279.3	315.0	273.0	196.4	320.3	357.0	366.5
137.5°	119.7	105.0	43.1	147.0	279.3	301.4	324.5	222.6	220.5	311.9	341.3
140°	116.6	112.4	42.0	105.0	261.5	288.8	317.1	306.6	194.3	212.1	298.2
142.5°	113.4	115.5	44.1	70.4	213.2	281.4	299.3	317.1	262.5	181.7	194.3
145°	109.2	114.5	48.3	34.7	152.3	274.1	282.5	302.4	312.9	248.9	178.5
147.5°	108.2	112.4	55.7	31.5	105.0	225.8	279.3	285.6	302.4	308.7	260.4
150°	106.1	109.2	72.5	33.6	67.2	169.1	261.5	274.1	285.6	299.3	304.5
152.5°	104.0	106.1	91.4	38.9	35.7	113.4	211.1	275.1	272.0	281.4	294.0
155°	101.9	102.9	102.9	46.2	35.7	73.5	143.9	225.8	274.1	267.8	276.2
157.5°	100.8	100.8	110.3	64.1	36.8	33.6	100.8	160.7	222.6	262.5	272.0
160°	99.8	99.8	108.2	88.2	43.1	35.7	39.9	107.1	151.2	206.9	243.6
162.5°	97.7	97.7	100.8	101.9	65.1	37.8	34.7	38.9	96.6	125.0	175.4
165°	96.6	96.6	97.7	108.2	92.4	54.6	36.8	34.7	32.6	53.6	104.0
167.5°	95.6	94.5	95.6	99.8	106.1	88.2	57.8	38.9	33.6	32.6	30.5
170°	94.5	93.5	93.5	94.5	98.7	105.0	92.4	75.6	50.4	37.8	32.6
172.5°	93.5	92.4	92.4	92.4	92.4	94.5	100.8	102.9	93.5	85.1	71.4
175°	92.4	92.4	92.4	92.4	91.4	90.3	90.3	91.4	93.5	94.5	98.7
177.5°	91.4	91.4	91.4	91.4	91.4	90.3	89.3	89.3	88.2	87.2	86.1
180°	89.3	89.3	89.3	89.3	89.3	89.3	89.3	89.3	89.3	89.3	89.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	9119.3	9119.3	9119.3	9119.3	9119.3	9119.3	9119.3	9119.3
2.5°	9333.5	9341.9	9344.0	9352.4	9347.1	9373.4	9375.5	9370.2
5°	9466.8	9488.9	9491.0	9508.8	9512.0	9535.1	9546.6	9542.4
7.5°	9643.2	9704.1	9745.1	9792.3	9811.2	9857.4	9874.2	9873.2
10°	9884.7	9968.7	10029.6	10079.0	10104.2	10140.9	10163.0	10169.3
12.5°	9990.8	10041.2	10058.0	10064.3	10070.6	10079.0	10090.5	10095.8
15°	9825.9	9833.3	9812.3	9780.8	9774.5	9769.2	9777.6	9780.8
17.5°	9548.7	9539.3	9514.1	9494.1	9479.4	9471.0	9465.8	9472.1
20°	9243.2	9211.7	9172.8	9161.3	9151.8	9142.4	9139.2	9146.6
22.5°	8894.6	8877.8	8852.6	8859.9	8871.5	8890.4	8903.0	8912.4
25°	8568.0	8594.3	8666.7	8753.9	8794.8	8812.7	8815.8	8826.3
27.5°	8362.2	8422.1	8471.4	8510.3	8505.0	8498.7	8496.6	8494.5
30°	8112.3	8161.7	8221.5	8295.0	8348.6	8394.8	8424.2	8438.9
32.5°	7832.0	7920.2	8028.3	8156.4	8238.3	8306.6	8346.5	8349.6
35°	7545.3	7633.5	7738.5	7816.2	7821.5	7832.0	7817.3	7807.8
37.5°	7234.5	7318.5	7393.1	7444.5	7418.3	7395.2	7358.4	7350.0
40°	6910.1	6981.5	7035.0	7067.6	7031.9	7003.5	6984.6	6977.3
42.5°	6551.0	6607.7	6643.4	6647.6	6598.2	6575.1	6566.7	6556.2
45°	6161.4	6207.6	6243.3	6242.3	6205.5	6188.7	6179.3	6163.5
47.5°	5748.8	5804.4	5844.3	5827.5	5772.9	5739.3	5707.8	5671.1
50°	5333.0	5375.0	5385.5	5371.8	5297.3	5254.2	5232.2	5212.2
52.5°	4909.8	4937.1	4906.7	4896.2	4836.3	4824.8	4819.5	4802.7
55°	4480.4	4484.6	4433.1	4402.7	4327.1	4307.1	4298.7	4273.5
57.5°	4049.9	4032.0	3969.0	3926.0	3842.0	3777.9	3729.6	3688.7
60°	3626.7	3586.8	3532.2	3481.8	3395.7	3329.6	3283.4	3248.7
62.5°	3209.9	3167.9	3113.3	3063.9	2976.8	2909.6	2873.9	2848.7
65°	2835.0	2797.2	2739.5	2693.3	2611.4	2547.3	2508.5	2482.2
67.5°	2472.8	2448.6	2396.1	2328.9	2240.7	2185.1	2149.4	2123.1
70°	2137.8	2102.1	2046.5	1983.5	1912.1	1868.0	1842.8	1819.7
72.5°	1826.0	1782.9	1744.1	1700.0	1648.5	1612.8	1592.9	1586.6
75°	1558.2	1530.9	1499.4	1467.9	1428.0	1397.6	1377.6	1373.4
77.5°	1332.5	1311.5	1286.3	1261.1	1223.3	1196.0	1178.1	1169.7
80°	1122.5	1102.5	1078.4	1054.2	1020.6	996.5	980.7	973.4
82.5°	928.2	908.3	889.4	871.5	849.5	824.3	810.6	806.4
85°	753.9	739.2	726.6	714.0	695.1	675.2	662.6	658.4
87.5°	598.5	593.3	583.8	575.4	560.7	543.9	533.4	529.2
90°	451.5	447.3	443.1	436.8	425.3	411.6	403.2	400.1
92.5°	357.0	353.9	350.7	345.5	337.1	325.5	317.1	314.0
95°	285.6	283.5	279.3	275.1	267.8	260.4	253.1	248.9
97.5°	225.8	224.7	221.6	219.5	215.3	206.9	200.6	196.4
100°	180.6	178.5	176.4	173.3	169.1	161.7	157.5	153.3
102.5°	150.2	148.1	144.9	141.8	137.6	132.3	127.1	123.9
105°	128.1	125.0	122.9	119.7	115.5	110.3	105.0	102.9
107.5°	113.4	112.4	107.1	104.0	98.7	95.6	91.4	87.2
110°	116.6	111.3	97.7	90.3	87.2	88.2	84.0	79.8



TEST NUMBER: P236502

CATALOG NUMBER: SKB4-LD5-24-N-UNV-L835-CD4-U outer 2 blades tilted out 20 degrees

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	121.8	110.3	100.8	97.7	95.6	92.4	83.0	78.8
115°	111.3	109.2	106.1	99.8	95.6	89.3	83.0	78.8
117.5°	121.8	101.9	92.4	89.3	89.3	89.3	85.1	80.9
120°	147.0	125.0	105.0	91.4	84.0	78.8	72.5	68.3
122.5°	170.1	144.9	126.0	113.4	105.0	95.6	88.2	83.0
125°	186.9	164.9	146.0	133.4	123.9	113.4	106.1	100.8
127.5°	199.5	178.5	161.7	151.2	141.8	132.3	125.0	119.7
130°	227.9	191.1	175.4	164.9	155.4	148.1	140.7	136.5
132.5°	295.1	251.0	197.4	177.5	165.9	159.6	153.3	146.0
135°	364.4	296.1	272.0	241.5	201.6	180.6	169.1	162.8
137.5°	349.7	356.0	346.5	283.5	263.6	253.1	244.7	240.5
140°	324.5	338.1	343.4	345.5	343.4	336.0	319.2	301.4
142.5°	277.2	304.5	320.3	325.5	326.6	325.5	322.4	318.2
145°	154.4	242.6	276.2	293.0	302.4	304.5	304.5	301.4
147.5°	186.9	156.5	152.3	223.7	253.1	265.7	266.7	267.8
150°	296.1	216.3	178.5	156.5	143.9	133.4	131.3	131.3
152.5°	300.3	301.4	295.1	238.4	196.4	174.3	162.8	156.5
155°	284.6	293.0	299.3	300.3	299.3	296.1	290.9	284.6
157.5°	269.9	274.1	282.5	285.6	286.7	286.7	283.5	281.4
160°	273.0	275.1	267.8	269.9	269.9	270.9	267.8	266.7
162.5°	212.1	237.3	256.2	268.8	275.1	270.9	265.7	260.4
165°	123.9	151.2	183.8	200.6	212.1	219.5	211.1	194.3
167.5°	37.8	66.2	96.6	109.2	115.5	115.5	106.1	101.9
170°	31.5	30.5	29.4	29.4	28.4	27.3	24.2	27.3
172.5°	57.8	48.3	38.9	36.8	35.7	31.5	29.4	26.3
175°	98.7	95.6	94.5	94.5	95.6	95.6	95.6	90.3
177.5°	85.1	85.1	88.2	90.3	93.5	96.6	91.4	88.2
180°	89.3	89.3	89.3	89.3	89.3	89.3	89.3	89.3

(END OF REPORT)