

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: P236509

Luminaire Tested: **SKB4-LD5-36-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: P236509  
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-LD5-36-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

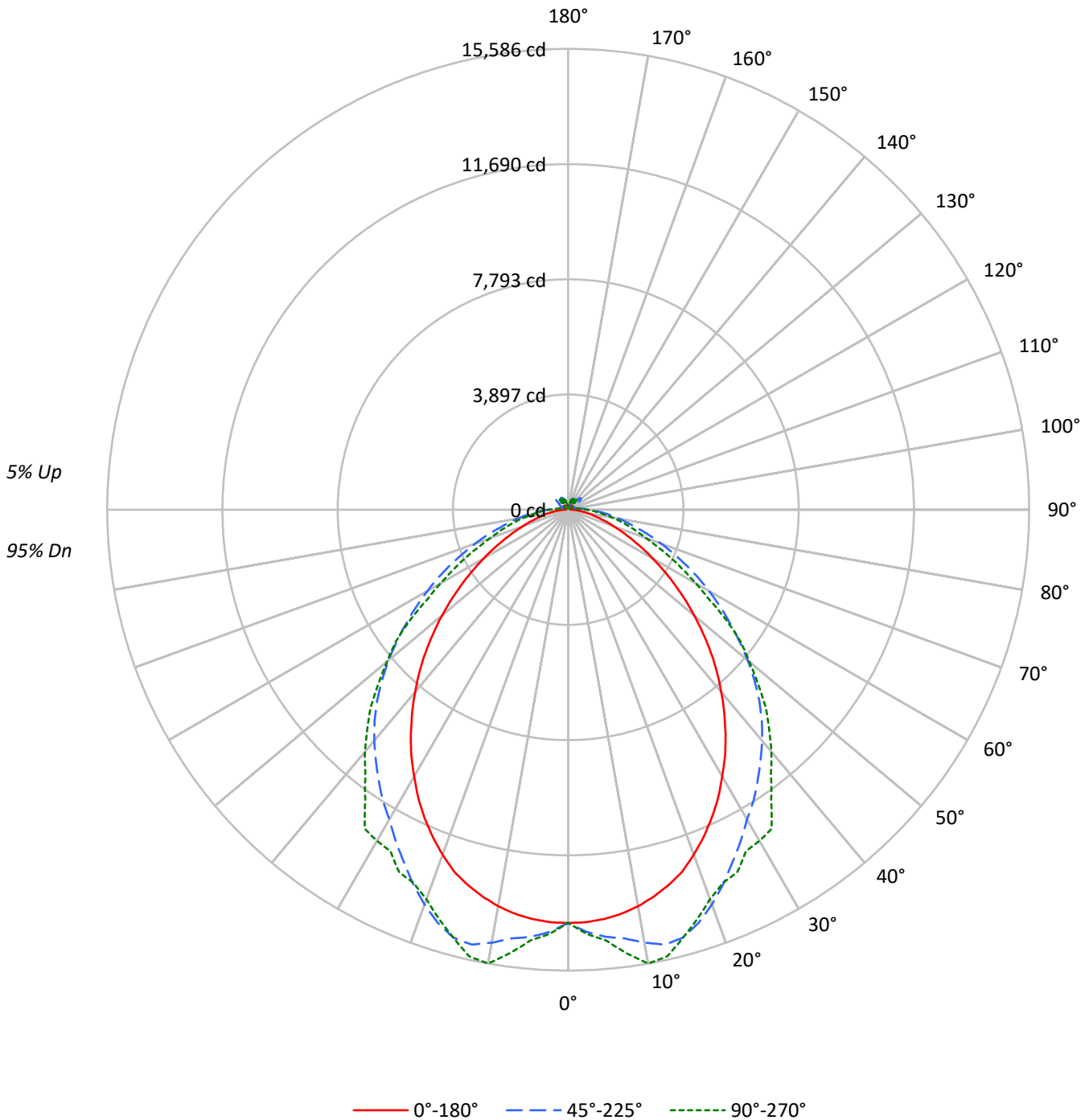
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 39791.0 lumens  
Efficiency: N/A  
Efficacy: 119.3 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): 333.5  
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-LD5-36-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	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									
1	108	103	99	95	104	100	96	93	95	92	89	90	88	85	86	84	82	79																			79									
2	98	90	83	78	95	88	82	77	84	78	74	80	75	72	76	72	69	67																			67									
3	90	80	72	65	87	78	70	64	74	68	63	71	65	61	67	63	59	57																			57									
4	83	71	62	56	80	69	61	55	66	59	54	63	57	53	61	56	51	49																			49									
5	76	64	55	48	74	62	54	48	60	52	47	57	51	46	55	49	45	43																			43									
6	70	57	49	43	68	56	48	42	54	47	41	52	45	41	50	44	40	38																			38									
7	65	52	44	38	63	51	43	37	49	42	37	47	41	36	46	40	36	34																			34									
8	61	48	39	34	59	47	39	34	45	38	33	44	37	33	42	36	32	30																			30									
9	57	44	36	30	55	43	36	30	42	35	30	40	34	29	39	33	29	27																			27									
10	54	41	33	28	52	40	33	28	39	32	27	37	31	27	36	31	27	25																			25									

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

	0°	45°	90°
0°	20059	20059	20059
5°	19928	20678	20867
10°	19664	21235	22277
15°	19245	21593	21629
20°	18609	20818	20578
25°	17764	19754	20366
30°	16756	18785	20141
35°	15674	18107	19452
40°	14458	17413	18326
45°	13151	16621	17255
50°	11695	15550	15750
55°	10202	14329	14144
60°	8694	13147	11985
65°	7261	11872	10433
70°	5978	10618	8965
75°	4909	9406	8251
80°	4127	8714	7564
85°	3488	8365	7319



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	1386.2	3.5
10°-20°	4082.0	10.3
20°-30°	5969.7	15.0
30°-40°	6909.3	17.4
40°-50°	6687.2	16.8
50°-60°	5477.2	13.8
60°-70°	3797.8	9.5
70°-80°	2307.1	5.8
80°-90°	1186.6	3.0
90°-100°	465.5	1.2
100°-110°	270.4	0.7
110°-120°	263.0	0.7
120°-130°	282.1	0.7
130°-140°	286.2	0.7
140°-150°	216.3	0.5
150°-160°	138.7	0.3
160°-170°	54.5	0.1
170°-180°	11.1	0.0
0°-30°	11437.8	28.7
0°-40°	18347.1	46.1
0°-60°	30511.5	76.7
0°-90°	37803.1	95.0
90°-120°	998.9	2.5
90°-150°	1783.6	4.5
90°-180°	1988.0	5.0
0°-180°	39791.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	13976	13976	13976	13976	13976	
5°	13896	14272	14498	14560	14625	###
15°	13133	14038	14982	15014	14990	3695
25°	11490	12855	13146	13349	13527	5279
35°	9272	10475	11170	11920	11966	5788
45°	6817	7836	9134	9568	9446	5250
55°	4380	5504	6670	6771	6550	3928
65°	2377	3610	4361	4163	3804	2381
75°	1057	2291	2427	2274	2105	1152
85°	338	1262	1178	1104	1009	341
90°	97	748	695	674	613	65
95°	74	480	447	425	381	63
105°	100	415	220	186	158	108
115°	143	564	254	158	121	143
125°	180	431	391	214	154	161
135°	187	455	547	393	249	145
145°	167	327	381	436	462	107
155°	156	84	410	459	436	73
165°	148	113	82	294	298	42
175°	142	139	145	145	138	14
180°	137	137	137	137	137	



TEST NUMBER: P236509

CATALOG NUMBER: SKB4-LD5-36-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°	13976.3	13976.3	13976.3	13976.3	13976.3	13976.3	13976.3	13976.3	13976.3	13976.3	13976.3
2.5°	13963.4	13953.7	14006.8	14071.2	14137.2	14125.9	14179.0	14246.6	14249.8	14293.3	14309.4
5°	13895.8	13908.7	14022.9	14148.5	14261.1	14282.0	14359.3	14446.2	14455.8	14497.7	14512.1
7.5°	13784.8	13828.2	14005.2	14169.4	14299.7	14317.4	14380.2	14486.4	14536.3	14626.4	14705.3
10°	13617.4	13707.5	13926.4	14087.3	14209.6	14265.9	14394.7	14574.9	14692.4	14867.8	15015.8
12.5°	13396.9	13519.2	13751.0	13915.1	14090.5	14216.0	14415.6	14681.1	14859.7	15064.1	15217.0
15°	13133.0	13287.5	13508.0	13710.7	13944.1	14132.4	14389.8	14698.8	14864.6	14982.0	15044.8
17.5°	12830.5	12988.2	13213.5	13461.3	13734.9	13971.4	14254.7	14526.6	14613.5	14650.5	14660.2
20°	12415.3	12624.5	12867.5	13150.7	13459.7	13733.3	13979.5	14195.1	14203.2	14203.2	14201.6
22.5°	11967.9	12206.1	12468.4	12780.6	13129.8	13405.0	13599.7	13755.8	13714.0	13701.1	13667.3
25°	11490.0	11731.4	12013.0	12359.0	12737.1	12973.7	13104.1	13213.5	13171.6	13145.9	13152.3
27.5°	10979.9	11218.0	11520.6	11892.3	12254.4	12444.3	12552.1	12648.6	12602.0	12630.9	12653.5
30°	10415.0	10672.5	10967.0	11369.3	11704.0	11834.4	11942.2	12042.0	12016.2	12090.2	12289.8
32.5°	9866.3	10094.8	10405.4	10796.4	11087.7	11189.1	11325.8	11409.5	11427.2	11663.8	11837.6
35°	9272.5	9497.7	9809.9	10181.7	10421.4	10529.3	10693.4	10754.6	10967.0	11169.7	11382.2
37.5°	8665.8	8881.4	9188.8	9538.0	9747.2	9866.3	10025.6	10236.4	10442.4	10683.8	10926.8
40°	8054.3	8250.6	8546.7	8862.1	9064.9	9217.7	9414.1	9702.1	9919.4	10194.5	10431.1
42.5°	7441.1	7626.2	7886.9	8166.9	8390.6	8537.0	8870.1	9143.7	9406.0	9690.9	9911.3
45°	6816.7	6963.2	7228.7	7489.4	7742.1	7930.3	8302.1	8590.1	8884.6	9134.1	9332.0
47.5°	6184.3	6321.1	6575.4	6832.8	7101.6	7367.1	7721.1	8044.6	8318.2	8541.9	8728.5
50°	5563.1	5690.3	5931.7	6211.7	6470.8	6791.0	7156.3	7481.4	7724.4	7922.3	8081.6
52.5°	4961.3	5075.5	5310.5	5603.4	5889.8	6216.5	6586.6	6902.0	7125.7	7293.1	7446.0
55°	4380.4	4501.0	4724.7	5012.8	5341.1	5667.7	6036.3	6322.7	6506.2	6670.3	6813.5
57.5°	3825.2	3942.6	4174.4	4464.0	4813.2	5144.7	5498.8	5757.9	5918.8	6076.5	6195.6
60°	3302.2	3422.9	3664.2	3966.8	4322.4	4652.3	4983.8	5209.1	5355.6	5495.6	5579.2
62.5°	2817.8	2938.5	3197.6	3519.4	3868.6	4192.1	4486.6	4676.5	4813.2	4927.5	4970.9
65°	2376.9	2502.4	2769.5	3107.4	3455.0	3764.0	4026.3	4179.2	4285.4	4361.0	4373.9
67.5°	1979.4	2124.2	2388.1	2751.8	3086.5	3371.4	3596.7	3710.9	3789.8	3821.9	3830.0
70°	1628.6	1781.4	2063.0	2430.0	2761.5	3018.9	3184.7	3263.5	3315.0	3332.7	3347.2
72.5°	1334.1	1485.3	1794.3	2149.9	2475.0	2682.6	2808.1	2858.0	2887.0	2872.5	2850.0
75°	1057.3	1232.7	1561.0	1913.4	2211.1	2370.4	2454.1	2489.5	2467.0	2426.7	2421.9
77.5°	841.6	1013.8	1359.8	1707.4	1960.1	2079.1	2133.9	2122.6	2092.0	2061.4	2064.7
80°	646.9	825.5	1186.0	1509.5	1713.8	1812.0	1818.4	1802.4	1773.4	1744.4	1744.4
82.5°	481.2	672.7	1036.4	1306.7	1482.1	1538.4	1536.8	1515.9	1478.9	1445.1	1437.1
85°	337.9	539.1	867.4	1103.9	1243.9	1281.0	1269.7	1243.9	1215.0	1178.0	1169.9
87.5°	218.9	421.6	706.5	889.9	996.1	1020.3	1005.8	978.4	957.5	926.9	922.1
90°	96.6	294.5	524.6	658.2	740.3	756.3	745.1	727.4	717.7	695.2	695.2
92.5°	62.8	204.4	386.2	508.5	587.4	611.5	600.2	584.2	572.9	555.2	550.4
95°	74.0	162.5	288.1	389.4	468.3	492.4	487.6	476.3	465.1	447.4	439.3
97.5°	80.5	156.1	276.8	346.0	391.0	415.2	407.1	394.3	379.8	360.5	350.8
100°	88.5	160.9	305.8	358.9	381.4	371.7	349.2	334.7	317.0	294.5	284.8
102.5°	98.2	159.3	326.7	395.9	400.7	375.0	333.1	294.5	273.6	251.0	238.2
105°	99.8	152.9	315.4	455.4	437.7	392.7	342.8	297.7	257.5	220.5	207.6
107.5°	103.0	146.4	297.7	479.6	497.3	429.7	354.0	305.8	262.3	218.9	194.7
110°	127.1	146.4	291.3	453.8	542.3	476.3	395.9	313.8	260.7	230.1	199.5



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CATALOG NUMBER: SKB4-LD5-36-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°	135.2	125.5	284.8	403.9	576.1	539.1	442.5	360.5	276.8	218.9	202.8
115°	143.2	112.6	278.4	358.9	545.5	582.5	492.4	405.5	321.8	254.3	194.7
117.5°	152.9	109.4	280.0	378.2	490.8	629.2	535.9	449.0	366.9	294.5	236.6
120°	160.9	106.2	281.6	395.9	407.1	592.2	608.3	486.0	400.7	334.7	275.2
122.5°	172.2	109.4	263.9	389.4	384.6	531.0	630.8	561.6	431.3	363.7	307.4
125°	180.2	115.9	220.5	384.6	440.9	421.6	592.2	635.7	518.2	391.0	329.9
127.5°	188.3	122.3	173.8	379.8	466.7	362.1	519.8	608.3	590.6	487.6	360.5
130°	193.1	128.7	136.8	381.4	455.4	432.9	389.4	555.2	601.9	561.6	468.3
132.5°	191.5	136.8	98.2	360.5	440.9	494.0	337.9	463.5	563.2	582.5	553.6
135°	186.7	144.8	69.2	297.7	428.1	482.8	418.4	300.9	490.8	547.1	561.6
137.5°	183.5	160.9	66.0	225.3	428.1	461.9	497.3	341.2	337.9	477.9	523.0
140°	178.6	172.2	64.4	160.9	400.7	442.5	486.0	469.9	297.7	325.1	457.0
142.5°	173.8	177.0	67.6	107.8	326.7	431.3	458.6	486.0	402.3	278.4	297.7
145°	167.4	175.4	74.0	53.1	233.3	420.0	432.9	463.5	479.6	381.4	273.6
147.5°	165.8	172.2	85.3	48.3	160.9	346.0	428.1	437.7	463.5	473.1	399.1
150°	162.5	167.4	111.0	51.5	103.0	259.1	400.7	420.0	437.7	458.6	466.7
152.5°	159.3	162.5	140.0	59.5	54.7	173.8	323.5	421.6	416.8	431.3	450.6
155°	156.1	157.7	157.7	70.8	54.7	112.6	220.5	346.0	420.0	410.4	423.2
157.5°	154.5	154.5	169.0	98.2	56.3	51.5	154.5	246.2	341.2	402.3	416.8
160°	152.9	152.9	165.8	135.2	66.0	54.7	61.2	164.1	231.7	317.0	373.3
162.5°	149.7	149.7	154.5	156.1	99.8	57.9	53.1	59.5	148.1	191.5	268.7
165°	148.1	148.1	149.7	165.8	141.6	83.7	56.3	53.1	49.9	82.1	159.3
167.5°	146.4	144.8	146.4	152.9	162.5	135.2	88.5	59.5	51.5	49.9	46.7
170°	144.8	143.2	143.2	144.8	151.3	160.9	141.6	115.9	77.2	57.9	49.9
172.5°	143.2	141.6	141.6	141.6	141.6	144.8	154.5	157.7	143.2	130.3	109.4
175°	141.6	141.6	141.6	141.6	140.0	138.4	138.4	140.0	143.2	144.8	151.3
177.5°	140.0	140.0	140.0	140.0	140.0	138.4	136.8	136.8	135.2	133.6	132.0
180°	136.8	136.8	136.8	136.8	136.8	136.8	136.8	136.8	136.8	136.8	136.8



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CATALOG NUMBER: SKB4-LD5-36-N-UNV-L840-CD4-U outer 2 blades tilted out 20 degrees

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	13976.3	13976.3	13976.3	13976.3	13976.3	13976.3	13976.3	13976.3
2.5°	14304.6	14317.4	14320.6	14333.5	14325.5	14365.7	14368.9	14360.9
5°	14508.9	14542.7	14545.9	14573.3	14578.1	14613.5	14631.2	14624.8
7.5°	14779.3	14872.6	14935.4	15007.8	15036.8	15107.6	15133.3	15131.7
10°	15149.4	15278.1	15371.5	15447.1	15485.7	15542.1	15575.9	15585.5
12.5°	15311.9	15389.2	15414.9	15424.6	15434.2	15447.1	15464.8	15472.9
15°	15059.3	15070.5	15038.4	14990.1	14980.4	14972.4	14985.3	14990.1
17.5°	14634.4	14620.0	14581.3	14550.8	14528.2	14515.4	14507.3	14517.0
20°	14166.2	14117.9	14058.3	14040.6	14026.2	14011.7	14006.8	14018.1
22.5°	13631.9	13606.1	13567.5	13578.8	13596.5	13625.5	13644.8	13659.2
25°	13131.4	13171.6	13282.7	13416.2	13479.0	13506.4	13511.2	13527.3
27.5°	12816.0	12907.7	12983.4	13042.9	13034.9	13025.2	13022.0	13018.8
30°	12433.0	12508.6	12600.4	12713.0	12795.1	12865.9	12910.9	12933.5
32.5°	12003.3	12138.5	12304.3	12500.6	12626.1	12730.7	12791.9	12796.7
35°	11564.0	11699.2	11860.1	11979.2	11987.2	12003.3	11980.8	11966.3
37.5°	11087.7	11216.4	11330.7	11409.5	11369.3	11333.9	11277.6	11264.7
40°	10590.4	10699.8	10781.9	10831.8	10777.1	10733.6	10704.7	10693.4
42.5°	10040.1	10127.0	10181.7	10188.1	10112.5	10077.1	10064.2	10048.1
45°	9443.0	9513.8	9568.6	9566.9	9510.6	9484.9	9470.4	9446.2
47.5°	8810.6	8895.9	8957.0	8931.3	8847.6	8796.1	8747.8	8691.5
50°	8173.3	8237.7	8253.8	8232.9	8118.6	8052.6	8018.9	7988.3
52.5°	7524.8	7566.7	7520.0	7503.9	7412.2	7394.5	7386.4	7360.7
55°	6866.6	6873.1	6794.2	6747.6	6631.7	6601.1	6588.2	6549.6
57.5°	6206.8	6179.5	6082.9	6017.0	5888.2	5790.1	5716.0	5653.3
60°	5558.3	5497.2	5413.5	5336.2	5204.3	5102.9	5032.1	4979.0
62.5°	4919.5	4855.1	4771.4	4695.8	4562.2	4459.2	4404.5	4365.9
65°	4345.0	4287.0	4198.5	4127.7	4002.2	3904.0	3844.5	3804.2
67.5°	3789.8	3752.8	3672.3	3569.3	3434.1	3348.8	3294.1	3253.9
70°	3276.4	3221.7	3136.4	3039.9	2930.4	2862.8	2824.2	2788.8
72.5°	2798.5	2732.5	2673.0	2605.4	2526.5	2471.8	2441.2	2431.6
75°	2388.1	2346.3	2298.0	2249.7	2188.6	2141.9	2111.3	2104.9
77.5°	2042.1	2009.9	1971.3	1932.7	1874.8	1832.9	1805.6	1792.7
80°	1720.3	1689.7	1652.7	1615.7	1564.2	1527.2	1503.0	1491.8
82.5°	1422.6	1392.0	1363.0	1335.7	1301.9	1263.3	1242.3	1235.9
85°	1155.4	1132.9	1113.6	1094.3	1065.3	1034.7	1015.4	1009.0
87.5°	917.3	909.2	894.7	881.9	859.3	833.6	817.5	811.1
90°	692.0	685.5	679.1	669.4	651.7	630.8	617.9	613.1
92.5°	547.1	542.3	537.5	529.4	516.6	498.9	486.0	481.2
95°	437.7	434.5	428.1	421.6	410.4	399.1	387.8	381.4
97.5°	346.0	344.4	339.6	336.3	329.9	317.0	307.4	300.9
100°	276.8	273.6	270.4	265.5	259.1	247.8	241.4	234.9
102.5°	230.1	226.9	222.1	217.2	210.8	202.8	194.7	189.9
105°	196.3	191.5	188.3	183.5	177.0	169.0	160.9	157.7
107.5°	173.8	172.2	164.1	159.3	151.3	146.4	140.0	133.6
110°	178.6	170.6	149.7	138.4	133.6	135.2	128.7	122.3





TEST NUMBER: P236509

CATALOG NUMBER: SKB4-LD5-36-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°	186.7	169.0	154.5	149.7	146.4	141.6	127.1	120.7
115°	170.6	167.4	162.5	152.9	146.4	136.8	127.1	120.7
117.5°	186.7	156.1	141.6	136.8	136.8	136.8	130.3	123.9
120°	225.3	191.5	160.9	140.0	128.7	120.7	111.0	104.6
122.5°	260.7	222.1	193.1	173.8	160.9	146.4	135.2	127.1
125°	286.4	252.7	223.7	204.4	189.9	173.8	162.5	154.5
127.5°	305.8	273.6	247.8	231.7	217.2	202.8	191.5	183.5
130°	349.2	292.9	268.7	252.7	238.2	226.9	215.6	209.2
132.5°	452.2	384.6	302.5	272.0	254.3	244.6	234.9	223.7
135°	558.4	453.8	416.8	370.1	309.0	276.8	259.1	249.4
137.5°	535.9	545.5	531.0	434.5	403.9	387.8	375.0	368.5
140°	497.3	518.2	526.2	529.4	526.2	515.0	489.2	461.9
142.5°	424.8	466.7	490.8	498.9	500.5	498.9	494.0	487.6
145°	236.6	371.7	423.2	449.0	463.5	466.7	466.7	461.9
147.5°	286.4	239.8	233.3	342.8	387.8	407.1	408.7	410.4
150°	453.8	331.5	273.6	239.8	220.5	204.4	201.2	201.2
152.5°	460.2	461.9	452.2	365.3	300.9	267.1	249.4	239.8
155°	436.1	449.0	458.6	460.2	458.6	453.8	445.8	436.1
157.5°	413.6	420.0	432.9	437.7	439.3	439.3	434.5	431.3
160°	418.4	421.6	410.4	413.6	413.6	415.2	410.4	408.7
162.5°	325.1	363.7	392.7	412.0	421.6	415.2	407.1	399.1
165°	189.9	231.7	281.6	307.4	325.1	336.3	323.5	297.7
167.5°	57.9	101.4	148.1	167.4	177.0	177.0	162.5	156.1
170°	48.3	46.7	45.1	45.1	43.4	41.8	37.0	41.8
172.5°	88.5	74.0	59.5	56.3	54.7	48.3	45.1	40.2
175°	151.3	146.4	144.8	144.8	146.4	146.4	146.4	138.4
177.5°	130.3	130.3	135.2	138.4	143.2	148.1	140.0	135.2
180°	136.8	136.8	136.8	136.8	136.8	136.8	136.8	136.8

(END OF REPORT)