

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: P236487

Luminaire Tested: **SKB4-LD5-18-N-UNV-L835-CD2-U inner 2 blades tilted out 20 degrees**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P236487  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24060)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: SKB4-LD5-18-N-UNV-L835-CD2-U inner 2 blades tilted out 20 degrees  
Description: METALUX SKYBAR LED WAVESTREAM LUMINAIRE  
4 BLADES WITH NARROW DISTRIBUTION LENS, INNER 2 BLADES TILTED OUT 20 DEGREES  
Light Source: (952) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

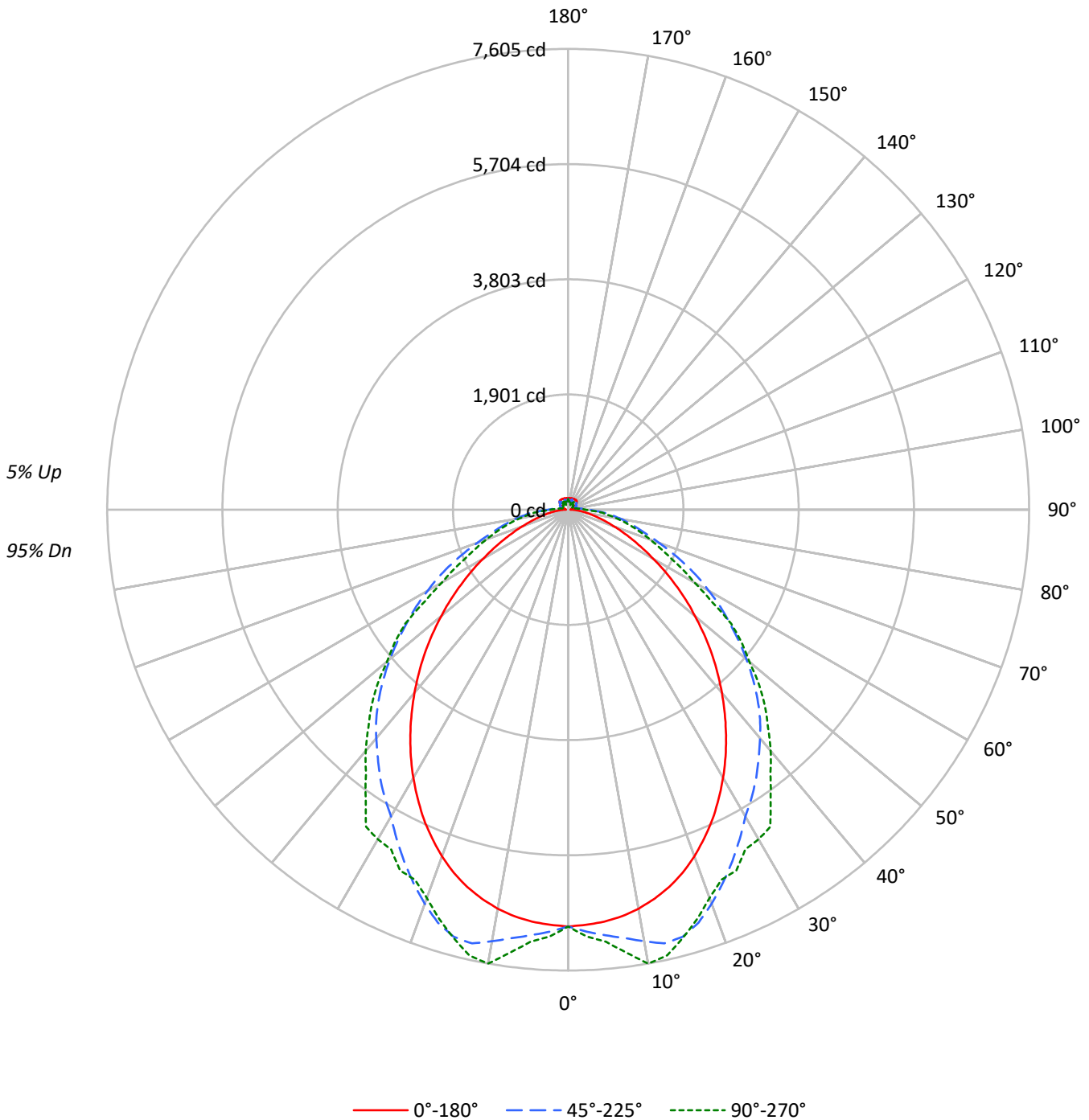
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 19432.0 lumens  
Efficiency: N/A  
Efficacy: 135.5 lumens/watt  
Spacing Criteria (0/90/45): 1.12 / 1.34 / 1.36  
Luminous Opening: Rectangular w/ Sides (W: 1.88' x L: 4' x H: 0.21')  
CIE Type: Direct  
  
Input Watts (W): 143.4  
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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### 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	114	114	114	114	108	108	108	103	103	103	97	97	97	95					95			
1	108	103	98	95	104	100	96	93	95	92	89	90	87	85	86	84	82	79					79			
2	98	90	83	78	95	88	82	76	83	78	74	79	75	71	76	72	69	67					67			
3	90	80	72	65	87	78	70	64	74	68	63	70	65	61	67	63	59	57					57			
4	82	71	62	56	80	69	61	55	66	59	54	63	57	52	60	55	51	49					49			
5	76	64	55	48	74	62	54	48	59	52	47	57	51	46	55	49	45	43					43			
6	70	57	49	42	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	33					33			
8	61	48	39	34	59	47	39	33	45	38	33	43	37	32	42	36	32	30					30			
9	57	44	36	30	55	43	35	30	42	35	30	40	34	29	39	33	29	27					27			
10	53	41	33	28	52	40	32	27	39	32	27	37	31	27	36	30	26	25					25			

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

	0°	45°	90°
0°	9871	9871	9871
5°	9786	10055	10211
10°	9655	10330	10870
15°	9441	10516	10554
20°	9122	10140	10006
25°	8713	9621	9887
30°	8222	9080	9780
35°	7673	8766	9465
40°	7081	8413	8909
45°	6447	8037	8386
50°	5741	7533	7691
55°	5031	6974	7087
60°	4271	6415	5799
65°	3590	5789	5064
70°	2953	5060	4620
75°	2412	4606	4316
80°	2024	4431	4078
85°	1698	4371	4059



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	677.0	3.5
10°-20°	1990.1	10.2
20°-30°	2902.5	14.9
30°-40°	3350.8	17.2
40°-50°	3244.4	16.7
50°-60°	2669.5	13.7
60°-70°	1845.3	9.5
70°-80°	1148.7	5.9
80°-90°	595.1	3.1
90°-100°	223.8	1.2
100°-110°	139.9	0.7
110°-120°	142.6	0.7
120°-130°	143.0	0.7
130°-140°	129.4	0.7
140°-150°	100.6	0.5
150°-160°	70.8	0.4
160°-170°	44.1	0.2
170°-180°	14.6	0.1
0°-30°	5569.6	28.7
0°-40°	8920.4	45.9
0°-60°	14834.3	76.3
0°-90°	18423.4	94.8
90°-120°	506.3	2.6
90°-150°	879.2	4.5
90°-180°	1009.0	5.2
0°-180°	19432.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6878	6878	6878	6878	6878	
5°	6824	6972	7050	7124	7157	647
15°	6443	6844	7297	7319	7315	1812
25°	5636	6269	6403	6449	6567	2588
35°	4539	5111	5408	5759	5823	2835
45°	3342	3807	4417	4623	4591	2574
55°	2160	2673	3247	3302	3282	1936
65°	1175	1763	2127	1983	1846	1174
75°	520	1110	1188	1178	1101	566
85°	164	613	616	602	560	166
90°	50	356	324	309	284	34
95°	46	232	216	207	189	38
105°	68	198	122	93	78	74
115°	116	233	146	95	77	115
125°	165	222	155	118	99	147
135°	198	204	154	133	112	153
145°	203	206	145	121	112	128
155°	198	155	167	119	86	92
165°	196	140	150	166	152	56
175°	191	180	149	128	131	18
180°	176	176	176	176	176	



TEST NUMBER: P236487

CATALOG NUMBER: SKB4-LD5-18-N-UNV-L835-CD2-U inner 2 blades tilted out 20 degrees

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	6878.0	6878.0	6878.0	6878.0	6878.0	6878.0	6878.0	6878.0	6878.0	6878.0	6878.0
2.5°	6856.0	6859.9	6888.2	6899.2	6915.0	6913.4	6931.5	6959.1	6948.8	6971.7	6974.0
5°	6823.7	6833.9	6876.4	6911.0	6959.1	6985.0	7014.2	7040.9	7029.1	7049.6	7059.8
7.5°	6767.8	6788.3	6851.2	6913.4	6967.7	6984.2	7018.9	7067.7	7081.1	7129.1	7162.1
10°	6686.0	6715.1	6801.6	6870.1	6922.9	6963.8	7034.6	7106.2	7151.1	7232.2	7295.1
12.5°	6575.0	6612.8	6723.7	6785.9	6869.3	6940.2	7038.6	7142.4	7226.7	7330.5	7391.9
15°	6442.8	6489.2	6608.0	6683.6	6799.3	6888.2	7021.2	7147.2	7223.5	7296.7	7324.2
17.5°	6282.2	6344.4	6466.4	6565.5	6693.0	6806.4	6955.1	7061.4	7122.0	7145.6	7133.8
20°	6086.2	6169.7	6293.2	6408.9	6555.3	6689.1	6834.7	6911.0	6921.3	6918.1	6911.0
22.5°	5868.2	5970.5	6095.7	6227.9	6394.0	6532.5	6663.9	6680.4	6678.9	6668.6	6662.3
25°	5636.0	5742.3	5872.9	6019.3	6205.9	6331.8	6416.8	6419.1	6417.6	6402.6	6386.9
27.5°	5375.5	5492.8	5636.0	5789.5	5979.2	6075.2	6133.4	6139.7	6137.4	6126.4	6118.5
30°	5110.3	5229.1	5363.7	5538.4	5713.2	5771.4	5834.4	5842.2	5835.9	5843.8	5933.5
32.5°	4830.1	4946.6	5087.5	5265.3	5412.5	5455.0	5521.9	5521.9	5526.6	5632.9	5728.9
35°	4538.9	4653.8	4793.1	4967.8	5083.5	5137.8	5198.4	5190.6	5300.0	5407.8	5495.2
37.5°	4244.5	4353.2	4487.7	4656.2	4749.0	4816.7	4857.6	4933.2	5056.0	5159.1	5274.0
40°	3944.7	4041.5	4174.5	4329.5	4416.9	4489.3	4541.3	4679.0	4794.7	4925.3	5042.6
42.5°	3644.8	3734.5	3855.7	3995.8	4090.3	4154.0	4276.8	4408.2	4549.1	4686.1	4782.9
45°	3341.8	3419.7	3536.2	3666.8	3767.6	3846.3	4004.5	4144.6	4299.6	4416.9	4508.2
47.5°	3036.4	3112.8	3215.9	3352.8	3448.8	3575.5	3725.1	3884.9	4028.1	4132.0	4225.6
50°	2731.0	2797.2	2902.6	3041.9	3143.5	3295.4	3450.4	3616.5	3740.0	3837.6	3915.6
52.5°	2448.5	2505.2	2601.2	2741.3	2862.5	3012.8	3183.6	3333.1	3449.6	3538.6	3622.0
55°	2160.4	2209.2	2315.5	2446.1	2600.4	2746.0	2921.5	3055.3	3160.8	3246.6	3323.7
57.5°	1889.7	1943.2	2047.1	2173.0	2344.6	2498.9	2662.6	2786.9	2883.7	2971.9	3018.3
60°	1622.1	1687.4	1798.4	1931.4	2104.6	2263.5	2413.9	2529.6	2621.6	2681.5	2720.0
62.5°	1383.6	1449.7	1565.4	1714.2	1887.3	2042.4	2180.1	2280.9	2351.7	2415.4	2437.5
65°	1175.1	1234.9	1352.9	1519.8	1689.0	1837.0	1962.9	2036.1	2095.1	2126.6	2119.5
67.5°	978.3	1043.6	1164.8	1346.6	1511.9	1650.4	1747.2	1807.8	1842.5	1848.8	1829.1
70°	804.4	874.4	1003.5	1190.8	1354.5	1473.3	1547.3	1581.2	1586.7	1588.3	1582.0
72.5°	653.2	726.4	868.9	1054.6	1212.8	1301.0	1356.1	1363.2	1374.2	1369.5	1378.9
75°	519.5	598.9	755.6	938.9	1073.5	1146.7	1170.3	1171.9	1175.8	1188.4	1201.8
77.5°	413.2	487.2	657.2	833.5	950.8	999.5	1005.8	1013.7	1022.4	1031.8	1045.2
80°	317.2	395.9	573.0	728.0	824.0	861.8	871.3	877.6	881.5	887.0	895.7
82.5°	234.5	321.9	489.5	625.7	706.8	746.9	747.7	750.1	754.0	743.0	746.1
85°	164.5	260.5	410.1	526.5	598.9	627.3	621.8	622.6	623.3	615.5	617.8
87.5°	107.0	205.4	332.1	425.8	482.5	502.1	490.3	483.2	471.4	439.2	428.9
90°	50.4	148.0	243.2	314.8	351.0	362.0	349.4	340.0	335.3	324.3	320.3
92.5°	37.8	103.9	180.2	240.8	279.4	292.8	285.7	277.8	271.5	265.2	263.7
95°	45.6	82.6	137.7	185.0	223.5	240.8	238.5	231.4	226.7	216.4	211.7
97.5°	47.2	88.1	133.8	162.1	185.7	203.1	200.7	192.0	184.2	173.9	167.6
100°	52.7	106.3	149.5	169.2	179.4	178.7	176.3	168.4	158.2	145.6	137.7
102.5°	60.6	120.4	171.6	187.3	189.7	183.4	166.1	154.3	142.5	130.6	120.4
105°	67.7	125.1	195.2	203.8	204.6	190.5	174.7	154.3	135.4	122.0	111.0
107.5°	77.9	128.3	203.1	221.9	215.7	203.8	179.4	159.8	143.2	124.4	108.6
110°	94.4	135.4	207.0	232.2	226.7	210.1	194.4	166.9	144.0	132.2	117.3



TEST NUMBER: P236487

CATALOG NUMBER: SKB4-LD5-18-N-UNV-L835-CD2-U inner 2 blades tilted out 20 degrees

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	104.7	134.6	207.0	237.7	243.2	213.3	199.9	181.8	154.3	131.4	118.8
115°	115.7	136.2	201.5	232.2	242.4	222.7	198.3	186.5	166.9	145.6	122.8
117.5°	127.5	137.7	199.9	225.9	237.7	249.5	202.3	184.2	170.0	155.8	137.7
120°	140.1	137.7	203.8	227.5	240.8	232.2	215.7	185.0	168.4	156.6	144.8
122.5°	153.5	138.5	213.3	233.8	232.2	220.4	239.3	194.4	168.4	155.0	144.8
125°	165.3	144.0	213.3	227.5	214.9	229.0	206.2	224.3	176.3	155.0	144.0
127.5°	176.3	150.3	210.1	225.1	214.1	223.5	199.9	215.7	195.2	162.1	144.8
130°	186.5	157.4	204.6	230.6	223.5	200.7	215.7	182.6	209.4	181.8	151.9
132.5°	193.6	160.6	196.0	243.2	219.6	188.1	210.9	185.7	166.9	199.1	175.5
135°	198.3	161.3	183.4	237.7	215.7	192.0	181.8	203.8	163.7	154.3	190.5
137.5°	202.3	162.1	168.4	225.1	219.6	194.4	166.1	193.6	188.9	148.0	141.7
140°	203.8	162.1	158.2	210.9	230.6	196.0	169.2	158.2	185.7	173.9	136.9
142.5°	203.8	162.9	152.7	194.4	219.6	196.0	175.5	150.3	153.5	175.5	167.6
145°	203.1	166.1	151.9	176.3	204.6	207.0	178.7	157.4	138.5	144.8	167.6
147.5°	202.3	170.8	151.1	155.0	189.7	203.8	183.4	168.4	147.2	131.4	135.4
150°	201.5	175.5	150.3	144.8	174.7	192.0	197.5	173.2	160.6	141.7	126.7
152.5°	199.9	179.4	150.3	144.0	160.6	179.4	189.7	189.7	168.4	158.2	140.1
155°	198.3	183.4	149.5	146.4	144.0	166.1	177.9	187.3	185.0	166.9	159.0
157.5°	198.3	187.3	150.3	146.4	138.5	150.3	166.1	175.5	183.4	185.0	169.2
160°	197.5	189.7	156.6	144.8	140.9	136.2	151.9	162.9	170.8	177.9	182.6
162.5°	196.8	191.3	164.5	145.6	141.7	135.4	134.6	148.8	157.4	163.7	169.2
165°	196.0	192.0	174.7	150.3	141.7	137.7	133.8	131.4	138.5	149.5	155.0
167.5°	194.4	192.0	181.0	161.3	146.4	138.5	135.4	132.2	127.5	128.3	133.0
170°	192.8	192.0	185.7	175.5	159.0	145.6	137.7	134.6	131.4	128.3	123.6
172.5°	192.0	191.3	188.1	183.4	175.5	162.1	152.7	142.5	133.8	131.4	128.3
175°	191.3	190.5	188.9	187.3	182.6	177.9	173.2	165.3	155.8	148.8	142.5
177.5°	190.5	189.7	188.9	188.9	187.3	184.2	182.6	178.7	173.9	170.8	166.1
180°	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	6878.0	6878.0	6878.0	6878.0	6878.0	6878.0	6878.0	6878.0
2.5°	6986.6	7010.2	7036.2	7015.7	7035.4	7050.4	7046.4	7051.1
5°	7070.0	7102.3	7129.8	7117.3	7137.7	7151.9	7147.2	7156.6
7.5°	7201.5	7250.3	7299.1	7306.9	7343.1	7373.8	7372.3	7373.8
10°	7371.5	7444.7	7510.8	7528.1	7573.0	7598.9	7597.4	7605.2
12.5°	7444.7	7499.0	7525.7	7517.1	7542.3	7545.4	7528.9	7534.4
15°	7327.4	7343.9	7331.3	7306.1	7325.0	7318.0	7305.4	7314.8
17.5°	7118.8	7123.6	7098.4	7070.0	7085.8	7085.8	7068.5	7078.7
20°	6883.5	6883.5	6856.7	6838.6	6841.0	6833.9	6810.3	6816.6
22.5°	6635.6	6619.1	6597.8	6576.6	6593.9	6597.0	6596.2	6608.0
25°	6363.3	6365.6	6423.1	6475.8	6527.8	6544.3	6538.8	6567.1
27.5°	6181.5	6244.4	6292.4	6297.9	6314.5	6308.2	6301.9	6321.6
30°	6006.7	6054.7	6099.6	6131.1	6184.6	6224.7	6254.7	6279.8
32.5°	5799.7	5867.4	5954.8	6018.5	6092.5	6140.5	6169.7	6204.3
35°	5578.6	5660.4	5746.2	5771.4	5802.9	5805.2	5795.0	5822.6
37.5°	5362.1	5432.2	5477.1	5488.9	5495.9	5482.6	5462.1	5481.8
40°	5120.5	5181.9	5226.8	5218.1	5214.2	5191.4	5175.6	5198.4
42.5°	4868.7	4909.6	4926.9	4900.9	4883.6	4870.2	4866.3	4881.3
45°	4586.1	4613.7	4631.8	4613.7	4602.6	4590.1	4580.6	4590.8
47.5°	4279.2	4309.9	4323.2	4308.3	4298.1	4279.2	4260.3	4271.3
50°	3979.3	4003.7	4007.6	3993.5	3953.3	3916.3	3886.4	3900.6
52.5°	3673.9	3672.4	3658.2	3634.6	3610.2	3598.4	3596.8	3607.8
55°	3355.2	3335.5	3315.8	3289.1	3271.0	3262.3	3269.4	3282.0
57.5°	3031.7	3012.0	2990.8	2935.7	2880.6	2828.6	2794.8	2786.9
60°	2734.2	2686.2	2631.1	2563.4	2506.7	2453.2	2408.4	2409.1
62.5°	2398.1	2341.5	2295.0	2241.5	2186.4	2143.1	2119.5	2116.4
65°	2083.3	2039.2	2007.0	1959.7	1911.7	1874.7	1852.7	1846.4
67.5°	1807.1	1781.1	1764.6	1733.1	1687.4	1654.4	1635.5	1630.8
70°	1580.4	1559.1	1546.5	1519.0	1481.2	1455.2	1440.3	1437.1
72.5°	1382.1	1369.5	1364.7	1338.0	1310.4	1282.1	1267.1	1263.2
75°	1212.1	1197.9	1187.7	1168.8	1141.2	1120.0	1108.9	1101.1
77.5°	1048.3	1035.8	1028.7	1012.9	991.7	972.0	959.4	951.5
80°	896.4	883.1	876.8	861.8	840.6	820.1	812.2	804.4
82.5°	743.8	732.0	727.2	716.2	700.5	685.5	675.3	668.2
85°	617.8	607.6	605.2	598.2	584.8	573.8	565.1	559.6
87.5°	421.1	417.1	416.3	410.1	400.6	391.2	383.3	378.6
90°	318.0	310.9	310.9	307.7	300.7	293.6	288.1	284.1
92.5°	262.9	260.5	260.5	255.8	249.5	243.2	236.9	233.0
95°	208.6	206.2	207.8	205.4	200.7	196.8	192.0	188.9
97.5°	163.7	161.3	163.7	162.1	158.2	154.3	150.3	146.4
100°	132.2	129.1	129.1	126.7	123.6	118.8	115.7	112.5
102.5°	113.3	108.6	106.3	103.9	100.0	96.0	92.9	89.7
105°	102.3	97.6	94.4	91.3	87.4	84.2	81.1	77.9
107.5°	97.6	91.3	87.4	84.2	80.3	77.1	73.2	70.8
110°	101.5	92.1	85.8	81.9	77.1	74.0	70.0	67.7





TEST NUMBER: P236487

CATALOG NUMBER: SKB4-LD5-18-N-UNV-L835-CD2-U inner 2 blades tilted out 20 degrees

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	109.4	100.7	91.3	84.2	80.3	76.3	72.4	70.0
115°	106.3	99.2	97.6	92.1	88.9	84.2	79.5	77.1
117.5°	118.1	102.3	92.9	87.4	85.0	83.4	81.1	78.7
120°	129.9	116.5	104.7	96.8	89.7	84.2	79.5	76.3
122.5°	134.6	123.6	114.9	108.6	103.9	98.4	92.9	89.7
125°	134.6	125.9	120.4	115.7	111.0	107.0	102.3	99.2
127.5°	136.2	129.1	123.6	118.1	114.1	110.2	106.3	103.9
130°	137.7	131.4	126.7	122.8	118.1	113.3	109.4	106.3
132.5°	146.4	135.4	129.1	125.1	122.0	117.3	113.3	110.2
135°	181.0	148.0	136.9	129.9	124.4	119.6	114.9	111.8
137.5°	180.2	186.5	167.6	142.5	133.0	126.7	121.2	118.1
140°	130.6	160.6	178.7	181.0	175.5	160.6	150.3	143.2
142.5°	130.6	125.9	125.1	149.5	169.2	171.6	170.0	168.4
145°	166.1	144.8	122.8	119.6	117.3	115.7	115.7	112.5
147.5°	159.0	163.7	162.9	145.6	130.6	116.5	113.3	112.5
150°	125.1	139.3	158.2	163.7	163.7	161.3	159.0	159.0
152.5°	123.6	118.8	122.0	129.1	140.1	144.0	148.0	141.7
155°	144.0	131.4	122.0	115.7	111.0	107.8	95.2	85.8
157.5°	160.6	154.3	145.6	137.7	129.1	114.1	101.5	98.4
160°	178.7	168.4	161.3	156.6	148.8	135.4	129.9	127.5
162.5°	173.9	177.9	176.3	171.6	155.0	147.2	142.5	139.3
165°	159.8	163.7	166.1	166.1	164.5	159.0	155.0	151.9
167.5°	143.2	149.5	154.3	155.8	160.6	159.0	152.7	149.5
170°	122.0	124.4	129.1	135.4	140.1	147.2	145.6	142.5
172.5°	125.1	123.6	125.1	126.7	128.3	132.2	132.2	130.6
175°	136.9	132.2	129.1	126.7	127.5	131.4	134.6	131.4
177.5°	161.3	157.4	151.9	148.8	149.5	151.1	155.0	144.0
180°	176.3	176.3	176.3	176.3	176.3	176.3	176.3	176.3

(END OF REPORT)