

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: P236488

Luminaire Tested: **SKB4-LD5-18-N-UNV-L840-CD2-U inner 2 blades tilted out 20 degrees**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P236488  
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-L840-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) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

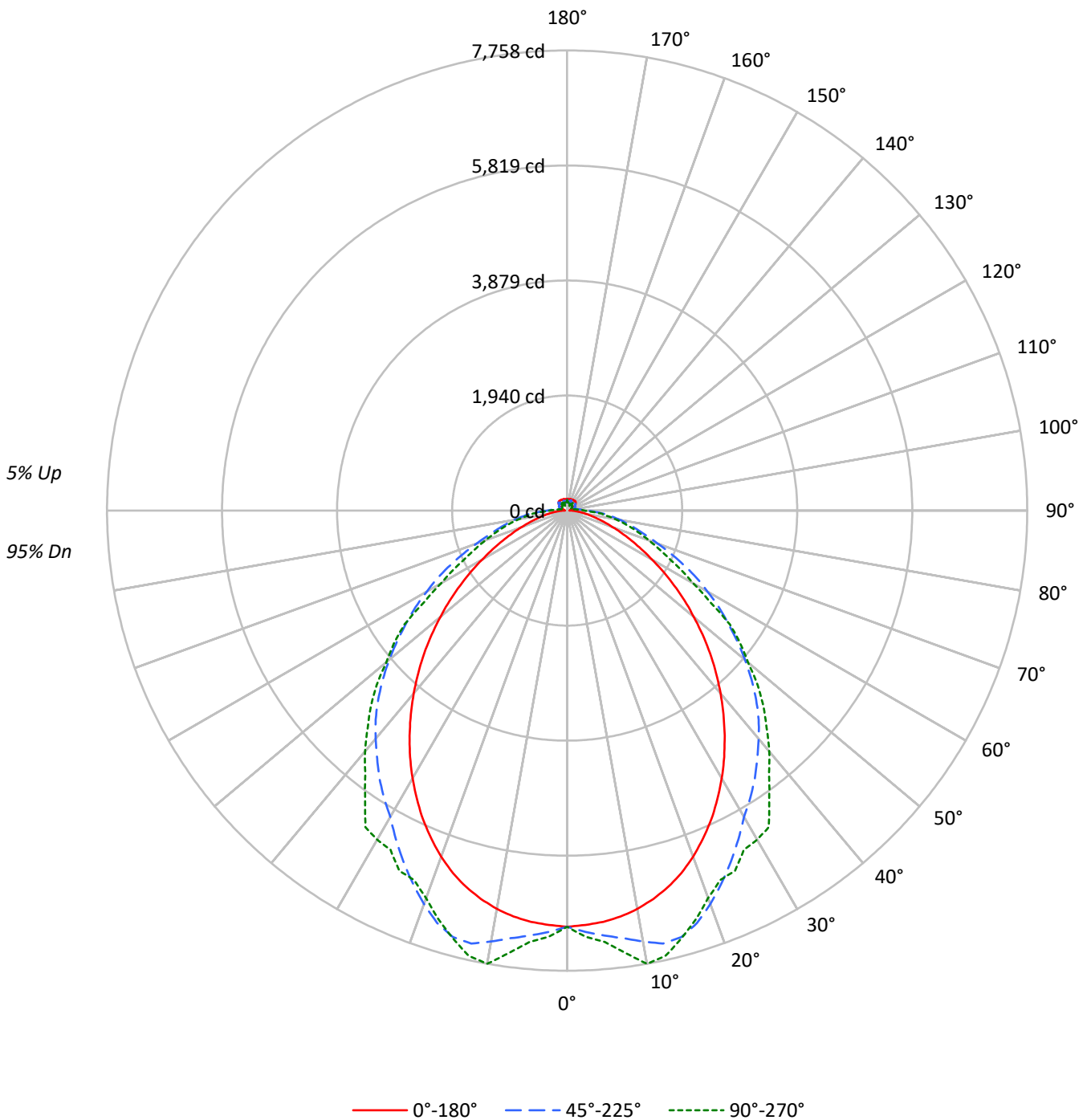
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 19821.0 lumens  
Efficiency: N/A  
Efficacy: 138.2 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	0
RCR																		
0	118	118	118	118	114	114	114	114	108	108	108	103	103	103	97	97	97	95
1	108	103	98	95	104	100	96	93	95	92	89	90	87	85	86	84	82	79
2	98	90	83	78	95	88	82	76	83	78	74	79	75	71	76	72	69	67
3	90	80	72	65	87	78	70	64	74	68	63	70	65	61	67	63	59	57
4	82	71	62	56	80	69	61	55	66	59	54	63	57	52	60	55	51	49
5	76	64	55	48	74	62	54	48	59	52	47	57	51	46	55	49	45	43
6	70	57	49	42	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	33
8	61	48	39	34	59	47	39	33	45	38	33	43	37	32	42	36	32	30
9	57	44	36	30	55	43	35	30	42	35	30	40	34	29	39	33	29	27
10	53	41	33	28	52	40	32	27	39	32	27	37	31	27	36	30	26	25

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

	0°	45°	90°
0°	10069	10069	10069
5°	9982	10256	10416
10°	9848	10536	11088
15°	9630	10727	10765
20°	9305	10343	10207
25°	8888	9814	10085
30°	8386	9261	9976
35°	7826	8942	9654
40°	7223	8581	9087
45°	6576	8198	8554
50°	5856	7683	7845
55°	5132	7114	7229
60°	4356	6543	5915
65°	3661	5905	5165
70°	3012	5162	4713
75°	2460	4698	4402
80°	2064	4520	4160
85°	1732	4458	4141



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	690.6	3.5
10°-20°	2030.0	10.2
20°-30°	2960.6	14.9
30°-40°	3417.9	17.2
40°-50°	3309.3	16.7
50°-60°	2722.9	13.7
60°-70°	1882.2	9.5
70°-80°	1171.7	5.9
80°-90°	607.0	3.1
90°-100°	228.2	1.2
100°-110°	142.7	0.7
110°-120°	145.5	0.7
120°-130°	145.9	0.7
130°-140°	132.0	0.7
140°-150°	102.6	0.5
150°-160°	72.2	0.4
160°-170°	44.9	0.2
170°-180°	14.8	0.1
0°-30°	5681.1	28.7
0°-40°	9099.0	45.9
0°-60°	15131.3	76.3
0°-90°	18792.2	94.8
90°-120°	516.4	2.6
90°-150°	896.8	4.5
90°-180°	1029.0	5.2
0°-180°	19821.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7016	7016	7016	7016	7016	
5°	6960	7112	7191	7266	7300	660
15°	6572	6981	7443	7465	7461	1848
25°	5749	6394	6531	6579	6699	2640
35°	4630	5213	5516	5874	5939	2892
45°	3409	3883	4505	4715	4683	2626
55°	2204	2727	3312	3369	3348	1975
65°	1199	1798	2169	2023	1883	1197
75°	530	1132	1212	1202	1123	577
85°	168	625	628	614	571	170
90°	51	364	331	316	290	34
95°	47	237	221	211	193	38
105°	69	202	124	95	80	75
115°	118	237	148	97	79	117
125°	169	226	158	120	101	150
135°	202	208	157	136	114	156
145°	207	210	148	124	115	130
155°	202	158	170	121	88	94
165°	200	142	152	169	155	57
175°	195	184	152	130	134	19
180°	180	180	180	180	180	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	7015.7	7015.7	7015.7	7015.7	7015.7	7015.7	7015.7	7015.7	7015.7	7015.7	7015.7
2.5°	6993.2	6997.2	7026.1	7037.4	7053.4	7051.8	7070.3	7098.4	7087.9	7111.2	7113.6
5°	6960.3	6970.7	7014.1	7049.4	7098.4	7124.9	7154.6	7181.9	7169.8	7190.7	7201.1
7.5°	6903.3	6924.2	6988.4	7051.8	7107.2	7124.1	7159.4	7209.2	7222.8	7271.8	7305.5
10°	6819.8	6849.5	6937.8	7007.7	7061.4	7103.2	7175.4	7248.5	7294.3	7376.9	7441.2
12.5°	6706.6	6745.1	6858.3	6921.8	7006.8	7079.1	7179.5	7285.4	7371.3	7477.3	7539.9
15°	6571.7	6619.1	6740.3	6817.4	6935.4	7026.1	7161.8	7290.2	7368.1	7442.8	7470.9
17.5°	6408.0	6471.4	6595.8	6697.0	6827.0	6942.6	7094.4	7202.7	7264.5	7288.6	7276.6
20°	6208.1	6293.2	6419.2	6537.2	6686.5	6823.0	6971.5	7049.4	7059.8	7056.6	7049.4
22.5°	5985.7	6090.1	6217.7	6352.6	6522.0	6663.3	6797.3	6814.2	6812.6	6802.1	6795.7
25°	5748.9	5857.2	5990.5	6139.8	6330.1	6458.5	6545.2	6547.6	6546.0	6530.8	6514.7
27.5°	5483.1	5602.8	5748.9	5905.4	6098.9	6196.8	6256.2	6262.7	6260.2	6249.0	6241.0
30°	5212.6	5333.8	5471.1	5649.3	5827.5	5886.9	5951.2	5959.2	5952.8	5960.8	6052.3
32.5°	4926.8	5045.6	5189.3	5370.7	5520.9	5564.2	5632.5	5632.5	5637.3	5745.6	5843.6
35°	4629.8	4747.0	4889.1	5067.3	5185.3	5240.7	5302.5	5294.5	5406.1	5516.0	5605.2
37.5°	4329.5	4440.3	4577.6	4749.4	4844.1	4913.1	4954.9	5032.0	5157.2	5262.4	5379.6
40°	4023.6	4122.4	4258.1	4416.2	4505.3	4579.2	4632.2	4772.7	4890.7	5023.9	5143.5
42.5°	3717.8	3809.3	3932.9	4075.8	4172.2	4237.2	4362.4	4496.5	4640.2	4779.9	4878.6
45°	3408.7	3488.2	3607.0	3740.3	3843.0	3923.3	4084.7	4227.6	4385.7	4505.3	4598.4
47.5°	3097.2	3175.1	3280.2	3419.9	3517.9	3647.1	3799.7	3962.6	4108.7	4214.7	4310.2
50°	2785.7	2853.2	2960.7	3102.8	3206.4	3361.3	3519.5	3688.9	3814.9	3914.5	3993.9
52.5°	2497.5	2555.3	2653.3	2796.2	2919.8	3073.1	3247.3	3399.9	3518.7	3609.4	3694.5
55°	2203.7	2253.5	2361.8	2495.1	2652.5	2801.0	2980.0	3116.5	3224.1	3311.6	3390.2
57.5°	1927.5	1982.1	2088.1	2216.5	2391.5	2548.9	2715.9	2842.7	2941.5	3031.4	3078.7
60°	1654.6	1721.2	1834.4	1970.1	2146.7	2308.9	2462.2	2580.2	2674.1	2735.1	2774.5
62.5°	1411.3	1478.8	1596.8	1748.5	1925.1	2083.3	2223.8	2326.5	2398.8	2463.8	2486.3
65°	1198.6	1259.6	1380.0	1550.2	1722.8	1873.7	2002.2	2076.8	2137.1	2169.2	2161.9
67.5°	997.9	1064.5	1188.1	1373.6	1542.2	1683.5	1782.2	1844.0	1879.4	1885.8	1865.7
70°	820.5	891.9	1023.6	1214.6	1381.6	1502.8	1578.3	1612.8	1618.4	1620.1	1613.6
72.5°	666.3	741.0	886.3	1075.8	1237.1	1327.0	1383.2	1390.5	1401.7	1396.9	1406.5
75°	529.8	610.9	770.7	957.7	1095.0	1169.7	1193.8	1195.4	1199.4	1212.2	1225.9
77.5°	421.5	496.9	670.3	850.2	969.8	1019.6	1026.0	1034.0	1042.8	1052.5	1066.1
80°	323.5	403.8	584.4	742.6	840.5	879.1	888.7	895.1	899.1	904.8	913.6
82.5°	239.2	328.3	499.3	638.2	720.9	761.9	762.7	765.1	769.1	757.8	761.1
85°	167.8	265.7	418.3	537.1	610.9	639.8	634.2	635.0	635.8	627.8	630.2
87.5°	109.2	209.5	338.8	434.3	492.1	512.2	500.1	492.9	480.9	448.0	437.5
90°	51.4	150.9	248.1	321.1	358.0	369.3	356.4	346.8	342.0	330.8	326.7
92.5°	38.5	106.0	183.8	245.7	285.0	298.6	291.4	283.4	277.0	270.5	268.9
95°	46.6	84.3	140.5	188.7	228.0	245.7	243.2	236.0	231.2	220.8	216.0
97.5°	48.2	89.9	136.5	165.4	189.5	207.1	204.7	195.9	187.9	177.4	171.0
100°	53.8	108.4	152.5	172.6	183.0	182.2	179.8	171.8	161.4	148.5	140.5
102.5°	61.8	122.8	175.0	191.1	193.5	187.1	169.4	157.3	145.3	133.3	122.8
105°	69.0	127.6	199.1	207.9	208.7	194.3	178.2	157.3	138.1	124.4	113.2
107.5°	79.5	130.9	207.1	226.4	220.0	207.9	183.0	163.0	146.1	126.8	110.8
110°	96.3	138.1	211.1	236.8	231.2	214.3	198.3	170.2	146.9	134.9	119.6



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CATALOG NUMBER: SKB4-LD5-18-N-UNV-L840-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°	106.8	137.3	211.1	242.4	248.1	217.6	203.9	185.4	157.3	134.1	121.2
115°	118.0	138.9	205.5	236.8	247.3	227.2	202.3	190.3	170.2	148.5	125.2
117.5°	130.1	140.5	203.9	230.4	242.4	254.5	206.3	187.9	173.4	159.0	140.5
120°	142.9	140.5	207.9	232.0	245.7	236.8	220.0	188.7	171.8	159.8	147.7
122.5°	156.5	141.3	217.6	238.4	236.8	224.8	244.1	198.3	171.8	158.2	147.7
125°	168.6	146.9	217.6	232.0	219.2	233.6	210.3	228.8	179.8	158.2	146.9
127.5°	179.8	153.3	214.3	229.6	218.4	228.0	203.9	220.0	199.1	165.4	147.7
130°	190.3	160.6	208.7	235.2	228.0	204.7	220.0	186.2	213.5	185.4	154.9
132.5°	197.5	163.8	199.9	248.1	224.0	191.9	215.2	189.5	170.2	203.1	179.0
135°	202.3	164.6	187.1	242.4	220.0	195.9	185.4	207.9	167.0	157.3	194.3
137.5°	206.3	165.4	171.8	229.6	224.0	198.3	169.4	197.5	192.7	150.9	144.5
140°	207.9	165.4	161.4	215.2	235.2	199.9	172.6	161.4	189.5	177.4	139.7
142.5°	207.9	166.2	155.7	198.3	224.0	199.9	179.0	153.3	156.5	179.0	171.0
145°	207.1	169.4	154.9	179.8	208.7	211.1	182.2	160.6	141.3	147.7	171.0
147.5°	206.3	174.2	154.1	158.2	193.5	207.9	187.1	171.8	150.1	134.1	138.1
150°	205.5	179.0	153.3	147.7	178.2	195.9	201.5	176.6	163.8	144.5	129.3
152.5°	203.9	183.0	153.3	146.9	163.8	183.0	193.5	193.5	171.8	161.4	142.9
155°	202.3	187.1	152.5	149.3	146.9	169.4	181.4	191.1	188.7	170.2	162.2
157.5°	202.3	191.1	153.3	149.3	141.3	153.3	169.4	179.0	187.1	188.7	172.6
160°	201.5	193.5	159.8	147.7	143.7	138.9	154.9	166.2	174.2	181.4	186.2
162.5°	200.7	195.1	167.8	148.5	144.5	138.1	137.3	151.7	160.6	167.0	172.6
165°	199.9	195.9	178.2	153.3	144.5	140.5	136.5	134.1	141.3	152.5	158.2
167.5°	198.3	195.9	184.6	164.6	149.3	141.3	138.1	134.9	130.1	130.9	135.7
170°	196.7	195.9	189.5	179.0	162.2	148.5	140.5	137.3	134.1	130.9	126.0
172.5°	195.9	195.1	191.9	187.1	179.0	165.4	155.7	145.3	136.5	134.1	130.9
175°	195.1	194.3	192.7	191.1	186.2	181.4	176.6	168.6	159.0	151.7	145.3
177.5°	194.3	193.5	192.7	192.7	191.1	187.9	186.2	182.2	177.4	174.2	169.4
180°	179.8	179.8	179.8	179.8	179.8	179.8	179.8	179.8	179.8	179.8	179.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	7015.7	7015.7	7015.7	7015.7	7015.7	7015.7	7015.7	7015.7
2.5°	7126.5	7150.6	7177.0	7156.2	7176.2	7191.5	7187.5	7192.3
5°	7211.6	7244.5	7272.6	7259.7	7280.6	7295.1	7290.2	7299.9
7.5°	7345.6	7395.4	7445.2	7453.2	7490.1	7521.4	7519.8	7521.4
10°	7519.0	7593.7	7661.1	7678.8	7724.6	7751.0	7749.4	7757.5
12.5°	7593.7	7649.1	7676.4	7667.6	7693.2	7696.5	7679.6	7685.2
15°	7474.1	7490.9	7478.1	7452.4	7471.7	7464.4	7451.6	7461.2
17.5°	7261.3	7266.2	7240.5	7211.6	7227.6	7227.6	7210.0	7220.4
20°	7021.3	7021.3	6994.0	6975.5	6977.9	6970.7	6946.6	6953.1
22.5°	6768.4	6751.6	6729.9	6708.2	6725.9	6729.1	6728.3	6740.3
25°	6490.6	6493.1	6551.7	6605.4	6658.4	6675.3	6669.7	6698.6
27.5°	6305.2	6369.4	6418.4	6424.0	6440.9	6434.5	6428.0	6448.1
30°	6127.0	6176.0	6221.7	6253.8	6308.4	6349.4	6379.9	6405.6
32.5°	5915.8	5984.9	6074.0	6139.0	6214.5	6263.5	6293.2	6328.5
35°	5690.3	5773.7	5861.3	5886.9	5919.1	5921.5	5911.0	5939.1
37.5°	5469.5	5540.9	5586.7	5598.7	5606.0	5592.3	5571.4	5591.5
40°	5223.0	5285.6	5331.4	5322.6	5318.6	5295.3	5279.2	5302.5
42.5°	4966.1	5007.9	5025.5	4999.0	4981.4	4967.7	4963.7	4979.0
45°	4677.9	4706.0	4724.5	4706.0	4694.8	4681.9	4672.3	4682.7
47.5°	4364.8	4396.1	4409.8	4394.5	4384.1	4364.8	4345.6	4356.8
50°	4059.0	4083.9	4087.9	4073.4	4032.5	3994.7	3964.2	3978.7
52.5°	3747.5	3745.9	3731.4	3707.3	3682.4	3670.4	3668.8	3680.0
55°	3422.3	3402.3	3382.2	3354.9	3336.4	3327.6	3334.8	3347.7
57.5°	3092.4	3072.3	3050.6	2994.4	2938.3	2885.3	2850.7	2842.7
60°	2788.9	2740.0	2683.8	2614.7	2556.9	2502.3	2456.6	2457.4
62.5°	2446.1	2388.3	2341.0	2286.4	2230.2	2186.0	2161.9	2158.7
65°	2125.0	2080.1	2047.1	1999.0	1950.0	1912.3	1889.8	1883.4
67.5°	1843.2	1816.7	1799.9	1767.8	1721.2	1687.5	1668.2	1663.4
70°	1612.0	1590.3	1577.5	1549.4	1510.9	1484.4	1469.1	1465.9
72.5°	1409.7	1396.9	1392.1	1364.8	1336.7	1307.8	1292.5	1288.5
75°	1236.3	1221.9	1211.4	1192.2	1164.1	1142.4	1131.1	1123.1
77.5°	1069.3	1056.5	1049.3	1033.2	1011.5	991.5	978.6	970.6
80°	914.4	900.7	894.3	879.1	857.4	836.5	828.5	820.5
82.5°	758.6	746.6	741.8	730.5	714.5	699.2	688.8	681.6
85°	630.2	619.8	617.4	610.1	596.5	585.2	576.4	570.8
87.5°	429.5	425.5	424.7	418.3	408.6	399.0	391.0	386.1
90°	324.3	317.1	317.1	313.9	306.7	299.4	293.8	289.8
92.5°	268.1	265.7	265.7	260.9	254.5	248.1	241.6	237.6
95°	212.7	210.3	211.9	209.5	204.7	200.7	195.9	192.7
97.5°	167.0	164.6	167.0	165.4	161.4	157.3	153.3	149.3
100°	134.9	131.7	131.7	129.3	126.0	121.2	118.0	114.8
102.5°	115.6	110.8	108.4	106.0	102.0	97.9	94.7	91.5
105°	104.4	99.5	96.3	93.1	89.1	85.9	82.7	79.5
107.5°	99.5	93.1	89.1	85.9	81.9	78.7	74.7	72.3
110°	103.6	93.9	87.5	83.5	78.7	75.5	71.4	69.0





TEST NUMBER: P236488

CATALOG NUMBER: SKB4-LD5-18-N-UNV-L840-CD2-U inner 2 blades tilted out 20 degrees

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	111.6	102.8	93.1	85.9	81.9	77.9	73.9	71.4
115°	108.4	101.2	99.5	93.9	90.7	85.9	81.1	78.7
117.5°	120.4	104.4	94.7	89.1	86.7	85.1	82.7	80.3
120°	132.5	118.8	106.8	98.7	91.5	85.9	81.1	77.9
122.5°	137.3	126.0	117.2	110.8	106.0	100.4	94.7	91.5
125°	137.3	128.4	122.8	118.0	113.2	109.2	104.4	101.2
127.5°	138.9	131.7	126.0	120.4	116.4	112.4	108.4	106.0
130°	140.5	134.1	129.3	125.2	120.4	115.6	111.6	108.4
132.5°	149.3	138.1	131.7	127.6	124.4	119.6	115.6	112.4
135°	184.6	150.9	139.7	132.5	126.8	122.0	117.2	114.0
137.5°	183.8	190.3	171.0	145.3	135.7	129.3	123.6	120.4
140°	133.3	163.8	182.2	184.6	179.0	163.8	153.3	146.1
142.5°	133.3	128.4	127.6	152.5	172.6	175.0	173.4	171.8
145°	169.4	147.7	125.2	122.0	119.6	118.0	118.0	114.8
147.5°	162.2	167.0	166.2	148.5	133.3	118.8	115.6	114.8
150°	127.6	142.1	161.4	167.0	167.0	164.6	162.2	162.2
152.5°	126.0	121.2	124.4	131.7	142.9	146.9	150.9	144.5
155°	146.9	134.1	124.4	118.0	113.2	110.0	97.1	87.5
157.5°	163.8	157.3	148.5	140.5	131.7	116.4	103.6	100.4
160°	182.2	171.8	164.6	159.8	151.7	138.1	132.5	130.1
162.5°	177.4	181.4	179.8	175.0	158.2	150.1	145.3	142.1
165°	163.0	167.0	169.4	169.4	167.8	162.2	158.2	154.9
167.5°	146.1	152.5	157.3	159.0	163.8	162.2	155.7	152.5
170°	124.4	126.8	131.7	138.1	142.9	150.1	148.5	145.3
172.5°	127.6	126.0	127.6	129.3	130.9	134.9	134.9	133.3
175°	139.7	134.9	131.7	129.3	130.1	134.1	137.3	134.1
177.5°	164.6	160.6	154.9	151.7	152.5	154.1	158.2	146.9
180°	179.8	179.8	179.8	179.8	179.8	179.8	179.8	179.8

(END OF REPORT)