

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: P236560

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236560
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24077)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: SKB4-LD5-18-W-UNV-L840-CD2-U outer 2 blades tilted out 20 degrees
Description: METALUX SKYBAR LED WAVESTREAM LUMINAIRE
4 BLADES WITH WIDE DISTRIBUTION LENS, OUTER 2 BLADES TILTED OUT 20 DEGREES
Light Source: (952) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

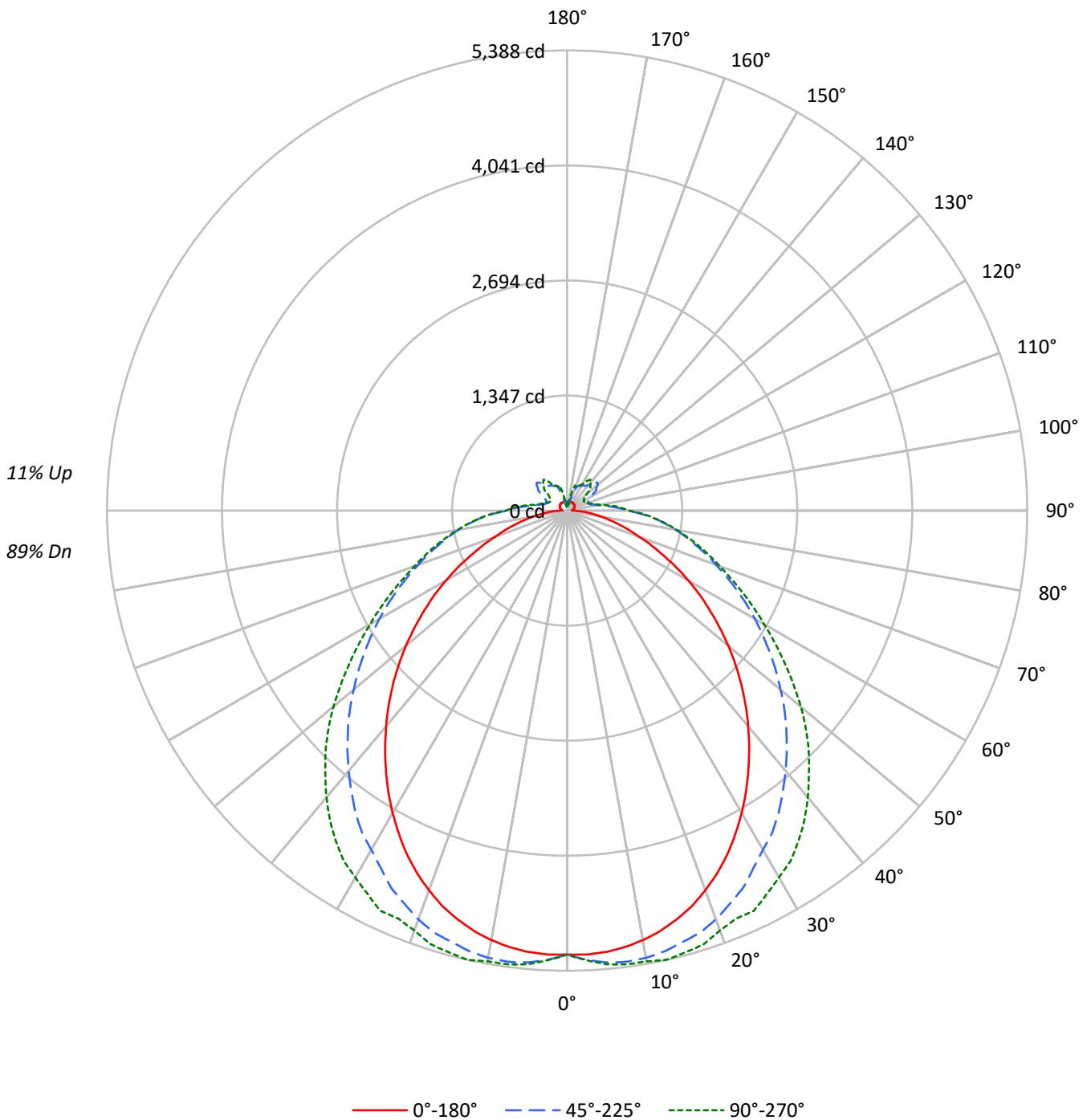
Lumens per Lamp: N/A
Luminaire Lumens: 18423.0 lumens
Efficiency: N/A
Efficacy: 128.5 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 1.4 / 1.41
Luminous Opening: Rectangular w/ Sides (W: 1.88' x L: 4' x H: 0.21')
CIE Type: Semi-Direct

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	117	117	117	117	113	113	113	113	105	105	105	99	99	99	92	92	92	89
1	105	99	95	90	101	96	92	88	90	86	83	84	81	79	79	77	74	72
2	95	86	79	73	91	83	76	71	78	72	68	73	68	64	68	65	61	59
3	86	75	67	60	83	73	65	59	68	62	56	64	59	54	60	56	52	49
4	79	66	57	51	76	64	56	50	61	53	48	57	51	46	54	49	44	42
5	72	59	50	43	70	58	49	43	54	47	41	51	45	40	48	43	38	36
6	67	53	44	38	64	52	43	37	49	42	36	46	40	35	44	38	34	31
7	62	48	39	33	60	47	39	33	44	37	32	42	36	31	40	34	30	28
8	58	44	35	30	55	43	35	29	41	33	28	39	32	28	37	31	27	25
9	54	40	32	27	52	39	32	26	37	30	26	36	29	25	34	28	24	22
10	50	37	29	24	49	36	29	24	35	28	23	33	27	23	31	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7462	7462	7462
5°	7441	7575	7610
10°	7374	7594	7660
15°	7262	7535	7726
20°	7090	7464	7677
25°	6866	7326	7787
30°	6576	7124	7723
35°	6256	7000	7676
40°	5920	6795	7513
45°	5566	6604	7311
50°	5178	6403	7045
55°	4755	6219	6715
60°	4316	6076	6413
65°	3795	5952	6211
70°	3313	5914	6109
75°	2918	6034	6247
80°	2569	6450	6595
85°	2293	7218	7429



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	504.9	2.7
10°-20°	1471.1	8.0
20°-30°	2232.2	12.1
30°-40°	2674.5	14.5
40°-50°	2736.7	14.9
50°-60°	2462.4	13.4
60°-70°	1982.1	10.8
70°-80°	1465.0	8.0
80°-90°	952.1	5.2
90°-100°	491.6	2.7
100°-110°	292.5	1.6
110°-120°	256.9	1.4
120°-130°	268.6	1.5
130°-140°	268.3	1.5
140°-150°	198.6	1.1
150°-160°	113.5	0.6
160°-170°	43.2	0.2
170°-180°	8.7	0.0
0°-30°	4208.3	22.8
0°-40°	6882.7	37.4
0°-60°	12081.8	65.6
0°-90°	16481.0	89.5
90°-120°	1041.0	5.7
90°-150°	1776.6	9.6
90°-180°	1942.0	10.5
0°-180°	18423.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5199	5199	5199	5199	5199	
5°	5188	5267	5311	5325	5334	493
15°	4956	5123	5228	5328	5354	1396
25°	4441	4628	4876	5057	5172	2041
35°	3701	3936	4318	4634	4722	2313
45°	2885	3176	3629	3930	4002	2224
55°	2042	2428	2895	3092	3110	1830
65°	1242	1761	2186	2259	2265	1243
75°	629	1249	1557	1589	1594	673
85°	222	811	1016	1021	1024	219
90°	67	542	696	718	716	47
95°	65	360	518	562	569	53
105°	77	266	278	308	309	83
115°	94	367	271	241	230	94
125°	106	337	415	271	243	95
135°	109	306	462	417	387	84
145°	111	252	357	427	431	70
155°	110	82	319	334	324	51
165°	110	88	84	223	245	31
175°	108	107	111	98	73	10
180°	97	97	97	97	97	



TEST NUMBER: P236560

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

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	5199.4	5199.4	5199.4	5199.4	5199.4	5199.4	5199.4	5199.4	5199.4	5199.4	5199.4
2.5°	5202.6	5203.9	5232.1	5249.3	5241.7	5243.6	5240.4	5257.0	5274.3	5264.7	5273.0
5°	5188.5	5194.9	5232.7	5258.9	5259.6	5274.3	5280.1	5301.8	5322.3	5310.8	5321.7
7.5°	5156.5	5167.4	5214.1	5251.3	5260.9	5275.6	5278.8	5305.7	5335.1	5329.4	5340.9
10°	5106.6	5123.9	5181.5	5223.7	5229.5	5250.6	5264.7	5291.6	5317.8	5317.2	5329.4
12.5°	5042.0	5061.2	5127.7	5170.6	5180.2	5207.7	5221.2	5251.3	5282.0	5283.9	5298.6
15°	4955.5	4981.2	5052.8	5095.7	5111.7	5134.8	5154.6	5189.8	5219.9	5228.2	5271.1
17.5°	4856.3	4881.9	4953.6	4999.1	5012.5	5043.2	5067.6	5102.8	5159.1	5182.1	5216.7
20°	4730.2	4761.0	4833.3	4880.7	4895.4	4931.2	4957.5	5018.9	5075.2	5092.5	5126.5
22.5°	4593.3	4622.7	4695.7	4746.9	4760.3	4796.2	4845.5	4910.1	4960.0	4981.2	5037.5
25°	4440.9	4466.5	4538.2	4588.1	4603.5	4652.1	4715.5	4777.6	4828.2	4875.5	4915.2
27.5°	4266.8	4294.3	4365.4	4410.8	4433.9	4506.8	4568.3	4628.5	4699.5	4720.6	4779.5
30°	4087.6	4111.3	4181.7	4221.4	4258.5	4336.6	4397.4	4482.5	4531.2	4584.9	4688.0
32.5°	3897.5	3920.5	3988.4	4024.9	4079.9	4162.5	4239.3	4307.1	4380.1	4470.4	4565.1
35°	3701.0	3723.4	3788.0	3824.5	3893.0	3978.8	4065.2	4138.8	4243.8	4318.0	4404.4
37.5°	3500.6	3524.3	3581.9	3623.5	3702.3	3797.0	3882.1	3983.3	4076.1	4148.4	4243.1
40°	3297.7	3315.6	3375.8	3422.5	3510.9	3605.0	3701.0	3809.8	3894.9	3978.1	4085.7
42.5°	3094.2	3109.5	3167.8	3230.5	3319.5	3415.5	3537.1	3618.4	3718.3	3807.2	3910.3
45°	2884.9	2899.6	2957.8	3030.8	3120.4	3231.8	3350.2	3428.3	3534.6	3629.3	3722.7
47.5°	2674.3	2690.9	2749.8	2834.9	2931.6	3050.7	3153.1	3246.5	3366.9	3450.7	3532.0
50°	2463.1	2479.7	2545.6	2639.1	2738.3	2861.8	2962.3	3066.0	3181.9	3261.9	3338.7
52.5°	2252.5	2271.0	2345.9	2440.0	2552.0	2673.6	2783.7	2890.6	2996.2	3081.4	3146.0
55°	2041.9	2064.9	2148.1	2244.1	2367.7	2488.7	2605.8	2711.4	2815.1	2895.1	2959.1
57.5°	1844.1	1866.5	1952.3	2061.1	2187.2	2312.6	2437.4	2537.3	2639.1	2715.2	2770.9
60°	1639.3	1664.9	1761.5	1879.3	2011.2	2146.8	2270.4	2372.2	2470.1	2539.9	2583.4
62.5°	1441.5	1483.7	1575.3	1706.5	1843.4	1986.2	2112.3	2214.1	2303.7	2361.9	2394.6
65°	1242.4	1300.7	1399.2	1544.5	1687.3	1835.1	1963.8	2063.6	2139.2	2186.5	2208.9
67.5°	1073.4	1129.8	1237.9	1394.7	1543.2	1696.9	1825.5	1913.9	1975.9	2015.6	2034.2
70°	902.5	971.0	1092.0	1257.1	1413.3	1568.2	1684.1	1762.2	1817.2	1856.3	1873.5
72.5°	761.1	825.7	965.3	1133.6	1296.2	1440.2	1543.2	1617.5	1678.3	1704.5	1712.9
75°	628.6	693.9	847.5	1026.1	1185.4	1312.2	1410.8	1486.9	1533.0	1556.7	1565.0
77.5°	510.1	585.0	750.8	927.5	1074.7	1193.1	1292.3	1356.3	1402.4	1421.6	1428.0
80°	402.6	485.2	665.7	831.5	967.8	1083.0	1172.0	1234.1	1275.7	1291.1	1293.0
82.5°	306.6	399.4	582.5	737.4	864.8	974.9	1056.8	1116.3	1145.8	1154.1	1152.2
85°	222.1	320.7	496.1	639.4	761.1	860.9	932.6	984.5	1010.1	1016.5	1010.7
87.5°	151.7	248.4	411.6	541.5	645.2	733.5	795.6	840.4	865.4	868.0	868.0
90°	67.2	186.3	326.4	426.3	508.2	576.7	626.0	668.9	690.0	696.4	702.2
92.5°	55.0	143.4	257.3	350.1	426.3	493.5	547.9	590.2	613.2	622.2	626.6
95°	64.6	117.1	191.4	261.8	330.9	389.2	437.2	482.0	505.7	517.8	530.6
97.5°	66.6	115.2	177.3	225.3	268.2	322.6	367.4	398.1	412.9	419.9	431.4
100°	69.8	117.1	191.4	220.2	252.8	283.6	308.5	345.6	363.6	370.0	372.5
102.5°	72.3	115.2	207.4	233.0	249.6	270.8	284.2	293.2	312.4	325.2	332.2
105°	76.8	113.3	206.1	268.8	261.8	269.5	279.7	285.5	295.1	278.4	289.3
107.5°	85.8	113.3	201.0	292.5	291.9	280.4	280.4	279.7	279.1	266.3	274.0
110°	90.9	97.3	194.6	286.1	329.6	304.7	291.2	281.6	272.7	266.3	260.5



TEST NUMBER: P236560

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

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	92.2	87.1	192.7	277.2	362.9	360.4	313.0	293.2	277.2	263.1	254.8
115°	94.1	76.8	190.1	259.9	354.0	380.2	370.0	315.6	290.0	270.8	256.7
117.5°	97.3	76.8	192.7	257.3	343.1	417.3	398.8	362.9	313.0	285.5	266.3
120°	101.1	78.1	202.9	258.6	325.8	405.2	427.6	411.6	358.4	310.4	283.6
122.5°	103.7	79.4	187.5	256.7	304.7	390.5	451.9	431.4	415.4	359.1	311.7
125°	106.3	80.7	165.1	255.4	304.7	368.7	434.0	481.3	431.4	415.4	373.2
127.5°	108.2	80.7	130.6	257.3	302.8	336.0	413.5	463.4	475.6	430.8	415.4
130°	108.2	78.1	90.3	269.5	295.7	332.2	383.4	442.3	478.8	467.3	430.1
132.5°	107.5	77.5	70.4	246.4	291.2	328.4	352.0	416.1	458.3	483.9	472.4
135°	108.8	86.4	71.0	218.3	290.0	321.3	347.6	368.7	433.3	461.5	482.0
137.5°	110.1	98.6	72.3	181.8	306.0	313.0	342.4	359.7	393.0	437.2	459.6
140°	110.7	108.2	73.6	126.7	279.7	307.2	332.8	351.4	364.2	397.5	434.0
142.5°	112.0	117.1	74.9	84.5	246.4	314.3	321.3	343.1	355.9	364.8	390.5
145°	111.4	121.0	73.6	69.1	202.3	302.1	313.6	329.6	346.9	357.2	364.2
147.5°	110.1	118.4	72.3	69.1	137.6	263.1	328.4	320.0	334.8	348.2	355.9
150°	109.5	115.9	78.1	70.4	87.1	217.6	297.6	318.1	323.2	335.4	345.6
152.5°	110.1	114.6	95.4	73.0	69.8	151.7	253.5	314.3	316.8	323.2	330.9
155°	110.1	113.3	108.8	73.6	71.7	91.5	196.5	266.3	314.9	319.4	318.8
157.5°	110.1	112.7	118.4	77.5	73.6	70.4	113.3	208.0	265.0	305.3	332.2
160°	110.1	111.4	120.3	95.4	74.9	73.0	73.6	117.1	200.3	249.6	284.8
162.5°	110.1	110.7	116.5	112.0	78.7	74.3	73.0	73.6	105.6	169.6	217.0
165°	110.1	110.1	113.3	121.0	101.1	74.9	74.3	73.0	70.4	83.9	109.5
167.5°	109.5	109.5	111.4	116.5	117.1	97.3	75.5	73.6	72.3	71.0	69.1
170°	108.8	108.2	110.1	112.0	116.5	116.5	103.1	85.8	73.0	71.7	71.0
172.5°	108.2	107.5	108.2	109.5	110.1	112.7	116.5	113.9	105.0	93.5	81.3
175°	107.5	106.9	106.9	106.9	106.9	106.9	107.5	108.2	109.5	111.4	113.3
177.5°	106.9	105.6	105.6	105.6	105.0	104.3	103.7	103.1	102.4	101.8	101.1
180°	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	5199.4	5199.4	5199.4	5199.4	5199.4	5199.4	5199.4	5199.4
2.5°	5267.3	5281.4	5271.8	5261.5	5260.2	5275.0	5273.7	5271.1
5°	5320.4	5334.5	5328.7	5320.4	5320.4	5336.4	5334.5	5333.8
7.5°	5341.5	5358.8	5353.0	5344.7	5350.5	5359.4	5361.4	5358.8
10°	5337.0	5358.2	5355.0	5347.3	5347.3	5360.7	5358.8	5359.4
12.5°	5307.6	5337.0	5348.6	5353.7	5365.2	5384.4	5385.7	5387.6
15°	5296.7	5326.2	5328.1	5328.7	5340.2	5356.9	5353.7	5354.3
17.5°	5237.8	5261.5	5265.4	5271.1	5289.0	5315.9	5315.3	5323.0
20°	5156.5	5196.2	5218.6	5225.0	5232.1	5243.6	5230.1	5230.1
22.5°	5084.2	5098.9	5095.7	5111.1	5145.7	5168.7	5172.5	5171.3
25°	4943.4	4991.4	5031.1	5083.6	5135.4	5164.2	5170.0	5171.9
27.5°	4857.6	4940.2	4983.7	5012.5	5038.8	5054.8	5065.0	5061.8
30°	4775.7	4819.2	4853.8	4902.4	4937.6	4951.7	4960.0	4959.4
32.5°	4627.8	4686.1	4728.3	4780.2	4837.8	4857.6	4865.9	4866.6
35°	4480.0	4548.5	4610.5	4656.6	4698.2	4712.3	4721.3	4721.9
37.5°	4333.4	4400.0	4455.6	4499.8	4537.6	4551.0	4560.0	4565.7
40°	4167.6	4228.4	4282.8	4334.7	4373.1	4375.6	4384.0	4384.0
42.5°	3983.9	4049.2	4106.2	4147.1	4180.4	4182.3	4190.6	4190.0
45°	3796.4	3856.5	3912.2	3947.4	3982.6	3989.0	3999.3	4002.5
47.5°	3603.0	3664.5	3715.1	3750.3	3778.4	3786.8	3793.2	3793.8
50°	3405.9	3470.5	3513.4	3539.7	3562.1	3569.8	3574.2	3573.0
52.5°	3213.2	3271.5	3301.6	3322.0	3344.5	3348.9	3350.2	3338.1
55°	3018.6	3064.7	3085.2	3098.7	3112.1	3121.7	3121.1	3109.5
57.5°	2818.3	2858.6	2865.0	2883.6	2889.3	2897.7	2893.2	2883.6
60°	2619.2	2648.7	2650.6	2667.9	2671.7	2669.8	2671.7	2664.0
62.5°	2420.2	2441.9	2444.5	2460.5	2468.2	2466.9	2468.2	2463.1
65°	2229.4	2249.9	2252.5	2265.3	2273.6	2271.7	2270.4	2264.6
67.5°	2054.0	2070.0	2076.4	2082.8	2086.7	2080.9	2078.4	2073.9
70°	1883.8	1894.0	1895.9	1901.1	1906.8	1901.7	1905.5	1900.4
72.5°	1719.9	1730.8	1738.5	1741.0	1747.4	1741.0	1744.9	1741.7
75°	1573.3	1582.3	1586.1	1592.5	1600.2	1594.5	1597.0	1593.8
77.5°	1434.4	1441.5	1447.2	1449.2	1456.2	1449.2	1450.4	1444.7
80°	1294.3	1297.5	1300.7	1302.6	1309.6	1303.9	1304.5	1300.7
82.5°	1152.8	1156.6	1165.0	1163.0	1169.4	1163.0	1164.3	1166.9
85°	1009.4	1016.5	1021.6	1019.7	1026.1	1023.5	1021.6	1024.1
87.5°	868.0	873.7	880.1	879.5	885.2	882.7	882.7	886.5
90°	701.5	706.0	713.7	722.0	723.3	724.6	722.0	716.3
92.5°	627.3	633.0	638.8	644.6	649.7	648.4	647.1	648.4
95°	538.3	547.9	558.2	565.2	573.5	573.5	573.5	569.0
97.5°	439.1	448.7	457.0	462.8	469.2	469.8	469.2	469.2
100°	373.2	376.4	379.6	383.4	387.9	389.2	387.9	388.5
102.5°	334.8	339.2	341.8	343.7	345.0	345.0	343.1	341.2
105°	295.7	302.8	306.6	309.8	311.7	312.4	311.1	309.2
107.5°	259.2	265.6	272.0	276.5	279.7	281.0	279.7	277.8
110°	249.6	266.3	250.9	243.9	246.4	249.6	249.0	247.1



TEST NUMBER: P236560

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	251.6	249.6	241.3	236.8	249.0	254.8	250.9	249.0
115°	246.4	242.0	240.7	240.7	240.0	238.1	233.6	230.4
117.5°	253.5	243.9	237.5	234.3	233.0	231.1	227.9	225.3
120°	266.3	254.1	244.5	239.4	234.9	230.4	226.0	222.8
122.5°	286.1	269.5	256.7	249.6	244.5	239.4	234.3	230.4
125°	320.0	293.8	275.9	266.3	258.6	252.2	245.8	243.2
127.5°	402.6	338.6	307.9	291.2	279.1	270.1	263.1	259.2
130°	414.1	407.1	390.5	336.7	316.2	302.1	291.2	288.0
132.5°	430.1	418.0	407.7	401.3	395.6	387.3	367.4	363.6
135°	491.6	439.7	421.8	411.6	403.9	396.9	389.8	386.6
137.5°	475.6	487.7	470.5	433.3	420.5	410.9	402.6	398.8
140°	451.9	464.7	474.9	480.7	482.6	465.3	444.2	436.5
142.5°	423.7	439.7	450.6	457.7	462.1	462.1	457.7	455.1
145°	371.3	404.5	421.8	432.1	436.5	437.8	434.0	430.8
147.5°	359.7	362.9	370.6	393.7	403.9	408.4	406.5	403.9
150°	350.1	354.6	356.5	357.2	355.9	354.0	351.4	348.8
152.5°	338.6	344.4	346.3	347.6	346.9	345.0	339.2	336.0
155°	323.2	329.0	332.8	336.0	335.4	333.5	327.7	324.5
157.5°	313.0	314.9	317.5	319.4	319.4	318.1	313.6	311.1
160°	309.2	327.7	310.4	305.3	304.0	302.8	298.3	295.1
162.5°	248.4	271.4	288.0	300.2	307.2	313.0	310.4	308.5
165°	155.5	192.7	215.7	229.8	240.0	247.1	245.8	245.2
167.5°	71.0	85.8	97.3	108.2	126.1	144.0	145.3	147.2
170°	68.5	66.6	63.4	60.2	57.0	53.1	49.3	46.7
172.5°	71.0	66.6	64.0	61.4	58.2	53.8	49.3	45.4
175°	110.1	105.6	100.5	94.7	90.3	83.9	76.2	73.0
177.5°	99.2	97.9	96.0	93.5	90.9	86.4	80.7	76.8
180°	96.7	96.7	96.7	96.7	96.7	96.7	96.7	96.7

(END OF REPORT)