

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: P236476

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236476
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24059)
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 all blades tilted out 20 degrees
Description: METALUX SKYBAR LED WAVESTREAM LUMINAIRE
4 BLADES WITH NARROW DISTRIBUTION LENS, ALL BLADES TILTED OUT 20 DEGREES
Light Source: (952) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

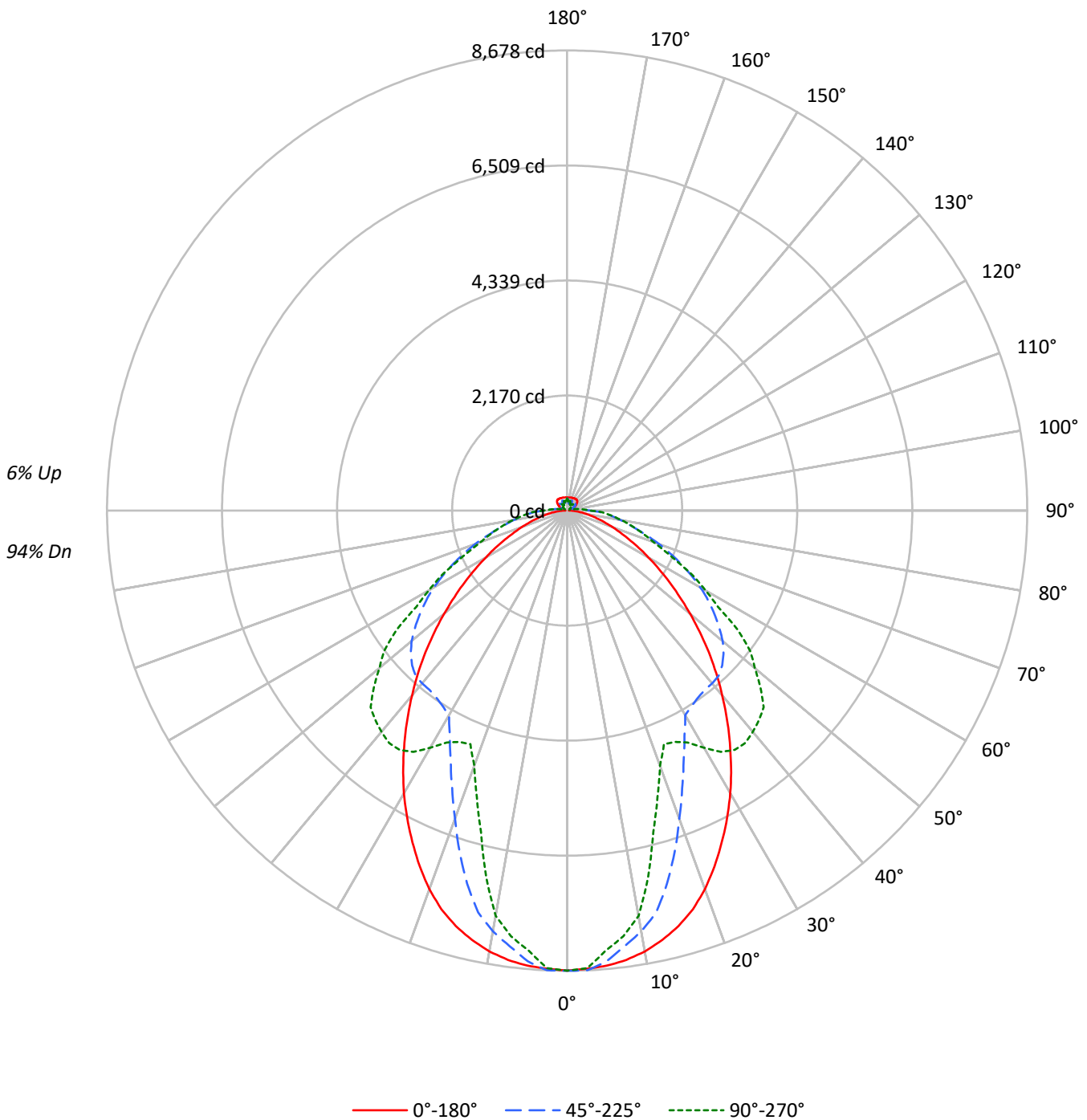
Lumens per Lamp: N/A
Luminaire Lumens: 19756.0 lumens
Efficiency: N/A
Efficacy: 137.8 lumens/watt
Spacing Criteria (0/90/45): 1.08 / 0.71 / 1.1
Luminous Opening: Rectangular w/ Sides (W: 1.88' x L: 4' x H: 0.21')
CIE Type: Direct

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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CATALOG NUMBER: SKB4-LD5-18-N-UNV-L840-CD2-U all 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	0		
RCR																										
0	118	118	118	118	114	114	114	114	108	108	108	102	102	102	97	97	97	94					94			
1	107	102	98	94	104	99	95	91	94	91	88	89	86	84	85	82	80	78					78			
2	97	89	82	76	94	87	80	75	82	77	72	78	74	70	74	71	68	65					65			
3	89	78	70	64	86	76	69	63	73	66	61	69	64	59	66	61	58	55					55			
4	82	70	61	54	79	68	60	54	65	58	52	62	56	51	59	54	50	47					47			
5	75	62	54	47	73	61	53	46	58	51	45	56	49	44	53	48	43	41					41			
6	70	56	48	41	67	55	47	41	53	45	40	51	44	39	49	43	38	36					36			
7	65	51	43	37	63	50	42	36	48	41	36	46	40	35	44	39	34	32					32			
8	60	47	39	33	58	46	38	32	44	37	32	43	36	31	41	35	31	29					29			
9	56	43	35	30	55	42	35	29	41	34	29	39	33	29	38	32	28	26					26			
10	53	40	32	27	51	39	32	27	38	31	26	37	30	26	35	30	26	24					24			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12452	12452	12452
5°	12355	12170	11889
10°	12190	11508	11091
15°	11887	10495	9050
20°	11384	9065	7515
25°	10670	7811	7244
30°	9900	6921	8041
35°	9040	6977	8955
40°	8172	7265	9336
45°	7285	7520	9576
50°	6357	7513	9114
55°	5487	7277	8489
60°	4669	6944	7246
65°	3936	6434	6327
70°	3336	5878	5569
75°	2784	5262	5318
80°	2356	5069	5275
85°	1948	5256	5451



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	799.2	4.0
10°-20°	2020.7	10.2
20°-30°	2578.7	13.1
30°-40°	3067.0	15.5
40°-50°	3261.7	16.5
50°-60°	2858.1	14.5
60°-70°	2060.1	10.4
70°-80°	1297.2	6.6
80°-90°	724.4	3.7
90°-100°	277.6	1.4
100°-110°	139.4	0.7
110°-120°	131.4	0.7
120°-130°	142.2	0.7
130°-140°	137.4	0.7
140°-150°	106.6	0.5
150°-160°	82.2	0.4
160°-170°	53.3	0.3
170°-180°	18.8	0.1
0°-30°	5398.6	27.3
0°-40°	8465.6	42.9
0°-60°	14585.4	73.8
0°-90°	18667.1	94.5
90°-120°	548.5	2.8
90°-150°	934.7	4.7
90°-180°	1089.0	5.5
0°-180°	19756.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8676	8676	8676	8676	8676	
5°	8615	8654	8533	8361	8333	817
15°	8112	7866	7282	6560	6272	2277
25°	6902	6380	5198	4714	4812	3171
35°	5348	4677	4304	5184	5509	3342
45°	3776	3314	4133	5006	5242	2911
55°	2356	2402	3388	3864	3931	2118
65°	1288	1662	2363	2487	2307	1295
75°	600	1103	1358	1403	1357	649
85°	189	642	740	782	751	193
90°	50	376	429	454	435	34
95°	38	236	272	299	285	34
105°	76	200	108	94	83	82
115°	144	251	119	73	51	144
125°	215	199	169	104	74	192
135°	267	221	177	170	113	204
145°	270	212	147	132	135	170
155°	260	160	206	138	112	121
165°	254	179	154	194	191	72
175°	248	236	208	186	190	24
180°	230	230	230	230	230	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	8676.4	8676.4	8676.4	8676.4	8676.4	8676.4	8676.4	8676.4	8676.4	8676.4	8676.4
2.5°	8647.5	8681.2	8702.1	8729.4	8716.5	8681.2	8684.4	8702.9	8673.2	8678.0	8648.3
5°	8614.6	8649.1	8666.8	8690.8	8675.6	8631.4	8617.0	8611.4	8552.8	8532.7	8461.2
7.5°	8547.1	8580.9	8594.5	8611.4	8568.0	8486.9	8434.8	8392.2	8316.7	8286.2	8221.2
10°	8441.2	8470.9	8475.7	8462.1	8385.0	8282.2	8216.4	8174.7	8096.0	8057.5	7978.0
12.5°	8293.5	8316.7	8300.7	8268.6	8173.9	8064.7	7999.7	7923.4	7825.4	7762.0	7638.4
15°	8112.0	8121.7	8080.7	8039.0	7931.4	7800.6	7704.2	7586.2	7434.5	7282.0	7086.1
17.5°	7882.4	7882.4	7827.1	7774.9	7638.4	7464.2	7323.7	7141.5	6939.2	6746.5	6493.6
20°	7595.1	7595.1	7530.8	7466.6	7283.6	7075.7	6897.4	6674.3	6421.4	6184.6	5925.3
22.5°	7265.1	7275.5	7208.1	7111.0	6900.7	6669.5	6474.4	6181.4	5901.2	5667.6	5419.5
25°	6901.5	6908.7	6839.6	6730.5	6507.3	6252.8	6000.7	5692.5	5417.1	5198.0	4974.8
27.5°	6535.4	6542.6	6467.2	6337.9	6097.1	5816.1	5542.4	5234.9	4993.3	4789.4	4587.9
30°	6153.3	6154.9	6061.8	5934.9	5677.2	5364.9	5104.0	4835.1	4607.9	4454.6	4494.7
32.5°	5754.3	5757.5	5670.8	5524.7	5249.3	4935.5	4708.3	4468.2	4296.5	4371.9	4463.4
35°	5348.1	5346.5	5268.6	5109.7	4817.5	4535.7	4351.8	4135.1	4192.1	4303.7	4458.6
37.5°	4947.5	4943.5	4865.6	4696.2	4408.8	4174.4	3999.4	3981.0	4088.5	4261.1	4510.8
40°	4552.5	4552.5	4462.6	4284.4	4026.7	3846.9	3737.7	3847.7	3993.0	4253.1	4538.9
42.5°	4162.4	4155.2	4063.6	3885.4	3679.1	3523.4	3574.8	3708.8	3925.6	4228.2	4486.7
45°	3776.3	3762.6	3673.5	3512.9	3362.0	3266.5	3399.8	3580.4	3849.3	4132.7	4381.5
47.5°	3392.5	3382.9	3298.6	3169.4	3058.6	3075.4	3215.1	3455.9	3728.1	3999.4	4236.2
50°	3024.1	3017.6	2942.2	2856.3	2776.8	2866.7	3049.7	3317.1	3572.3	3827.6	4039.6
52.5°	2679.7	2672.4	2610.6	2566.5	2548.8	2657.2	2882.8	3141.3	3383.7	3614.9	3819.6
55°	2356.1	2348.1	2305.6	2292.7	2339.3	2463.7	2711.0	2951.8	3173.4	3387.7	3568.3
57.5°	2054.3	2049.5	2027.8	2034.2	2124.9	2280.7	2521.5	2749.5	2950.2	3153.3	3305.0
60°	1773.3	1774.1	1774.9	1812.7	1924.3	2100.9	2329.7	2536.8	2727.0	2902.8	3016.0
62.5°	1529.3	1521.3	1541.3	1619.2	1741.2	1923.4	2133.8	2325.6	2489.4	2633.1	2716.6
65°	1288.5	1301.3	1327.8	1437.8	1575.0	1750.0	1947.5	2111.3	2248.6	2363.4	2427.6
67.5°	1082.9	1099.8	1135.9	1273.2	1424.9	1591.1	1763.7	1897.0	2011.0	2096.0	2147.4
70°	908.7	923.2	975.4	1129.5	1290.1	1441.8	1581.5	1691.4	1781.4	1844.8	1874.5
72.5°	746.6	769.1	850.1	1008.3	1173.7	1296.5	1408.1	1499.6	1567.8	1584.7	1611.2
75°	599.7	631.0	737.8	907.1	1050.8	1156.0	1249.9	1310.1	1343.0	1357.5	1388.0
77.5°	477.7	509.8	642.2	816.4	936.8	1025.9	1093.4	1127.9	1159.2	1176.9	1205.0
80°	369.3	405.4	564.4	716.1	828.5	896.7	946.5	977.0	998.7	1014.7	1042.0
82.5°	277.8	325.9	488.1	625.4	719.3	785.9	818.8	841.3	855.0	873.4	895.9
85°	188.7	261.7	407.0	530.6	614.9	668.7	692.0	708.0	722.5	740.2	759.4
87.5°	116.4	200.7	334.0	433.5	501.7	545.9	562.7	573.2	590.8	610.9	632.6
90°	49.8	144.5	244.0	320.3	365.3	386.9	403.8	405.4	420.7	428.7	448.8
92.5°	29.7	98.7	176.6	244.8	289.8	313.9	320.3	324.3	331.5	339.6	349.2
95°	38.5	78.7	137.3	187.0	225.6	247.3	254.5	261.7	265.7	272.1	281.0
97.5°	44.2	82.7	136.5	166.2	188.7	203.9	206.3	207.9	207.1	208.7	214.3
100°	53.0	93.1	155.7	175.0	183.0	178.2	173.4	169.4	164.6	161.4	162.2
102.5°	65.8	102.0	168.6	199.9	193.5	180.6	158.9	146.9	134.9	127.6	125.2
105°	76.3	106.8	177.4	225.6	213.5	187.0	165.4	142.9	123.6	108.4	100.3
107.5°	88.3	110.0	176.6	231.2	248.9	204.7	167.8	147.7	126.0	105.2	92.3
110°	111.6	118.8	175.0	226.4	256.9	230.4	187.8	148.5	124.4	110.8	94.7



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

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	128.4	121.2	179.0	217.6	255.3	248.9	211.9	171.0	130.9	103.6	97.1
115°	144.5	126.0	183.0	206.3	245.6	256.1	234.4	194.3	153.3	118.8	91.5
117.5°	163.0	134.1	188.7	196.7	229.6	252.9	234.4	224.0	175.8	139.7	111.6
120°	180.6	143.7	191.9	206.3	219.2	240.0	244.8	211.9	207.1	159.8	130.9
122.5°	198.3	154.1	193.5	224.8	206.3	220.8	236.8	231.2	189.5	188.7	148.5
125°	215.1	165.4	192.7	234.4	195.9	201.5	220.8	228.0	215.1	169.4	171.0
127.5°	232.0	176.6	191.9	236.0	206.3	199.9	201.5	216.7	215.1	200.7	155.7
130°	247.3	187.8	183.0	235.2	229.6	185.4	183.8	197.5	205.5	202.3	192.7
132.5°	257.7	199.9	177.4	231.2	242.4	183.8	187.0	177.4	189.5	193.5	191.1
135°	267.3	211.1	173.4	224.0	240.8	200.7	169.4	174.2	169.4	177.4	181.4
137.5°	272.1	223.2	171.8	215.1	236.0	224.8	167.0	174.2	151.7	158.9	165.4
140°	273.7	231.2	171.8	202.3	228.8	229.6	187.8	154.9	168.6	140.5	148.5
142.5°	272.9	236.8	173.4	182.2	217.6	224.8	212.7	161.4	150.9	163.0	130.9
145°	270.5	240.0	174.2	163.8	204.7	218.4	218.4	190.3	149.3	146.9	158.9
147.5°	268.1	241.6	179.0	155.7	191.9	209.5	215.1	210.3	176.6	142.9	138.9
150°	266.5	243.2	191.9	156.5	173.4	199.1	209.5	211.1	203.9	172.6	141.3
152.5°	262.5	244.8	204.7	161.4	154.1	187.8	201.5	207.1	208.7	201.5	179.0
155°	260.1	246.5	214.3	166.2	150.1	170.2	190.3	199.9	204.7	206.3	203.1
157.5°	260.1	248.9	220.0	179.8	154.1	146.1	178.2	188.7	196.7	201.5	203.9
160°	258.5	250.5	224.0	196.7	158.9	146.9	148.5	176.6	185.4	192.7	197.5
162.5°	256.1	251.3	228.0	210.3	175.8	151.7	142.9	145.3	171.8	180.6	187.0
165°	254.5	251.3	235.2	218.4	195.9	163.0	150.1	141.3	137.3	154.1	173.4
167.5°	252.9	250.5	240.0	224.0	213.5	189.5	163.8	149.3	142.1	134.9	132.5
170°	250.5	248.9	244.0	233.6	220.0	211.9	195.1	175.0	154.9	143.7	137.3
172.5°	248.9	248.1	245.6	240.8	232.0	220.0	215.9	208.7	192.7	179.8	164.6
175°	248.1	247.3	246.5	244.8	240.0	232.8	228.8	220.8	212.7	207.9	203.1
177.5°	247.3	246.5	246.5	245.6	244.0	239.2	238.4	233.6	228.8	224.0	218.4
180°	230.4	230.4	230.4	230.4	230.4	230.4	230.4	230.4	230.4	230.4	230.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	8676.4	8676.4	8676.4	8676.4	8676.4	8676.4	8676.4	8676.4
2.5°	8635.4	8653.1	8641.9	8618.6	8629.8	8654.7	8649.1	8637.9
5°	8420.3	8414.7	8376.2	8345.6	8340.8	8352.1	8346.5	8332.8
7.5°	8189.1	8185.9	8161.8	8116.1	8120.1	8119.3	8108.8	8096.0
10°	7931.4	7907.3	7864.8	7823.0	7802.2	7797.4	7778.1	7759.6
12.5°	7554.1	7466.6	7360.6	7251.5	7203.3	7131.0	7091.7	7065.2
15°	6936.8	6773.0	6630.1	6489.6	6418.2	6344.3	6299.4	6272.1
17.5°	6306.6	6155.7	5983.1	5856.2	5792.8	5730.2	5692.5	5664.4
20°	5746.3	5603.4	5455.7	5337.7	5266.2	5194.8	5151.4	5119.3
22.5°	5251.8	5110.5	4953.9	4848.0	4799.0	4781.3	4775.7	4767.7
25°	4807.8	4705.1	4697.8	4729.9	4771.7	4799.0	4811.8	4811.8
27.5°	4594.3	4656.1	4712.3	4777.3	4851.2	4904.2	4929.0	4930.6
30°	4579.8	4679.4	4777.3	4897.7	5020.6	5114.5	5153.0	5163.4
32.5°	4595.9	4770.9	4941.9	5107.3	5252.6	5349.7	5389.8	5393.8
35°	4686.6	4914.6	5108.1	5259.0	5382.6	5459.7	5499.8	5508.6
37.5°	4777.3	4993.3	5153.0	5303.1	5417.1	5483.0	5512.7	5520.7
40°	4780.5	4983.6	5141.0	5277.4	5376.2	5421.1	5442.0	5447.6
42.5°	4721.1	4918.6	5067.1	5181.1	5271.8	5327.2	5349.7	5356.1
45°	4610.3	4793.4	4945.9	5065.5	5159.4	5211.6	5237.3	5242.1
47.5°	4436.9	4628.8	4786.1	4896.1	4954.7	4976.4	4951.5	4943.5
50°	4232.2	4407.2	4531.7	4609.5	4633.6	4631.2	4619.2	4622.4
52.5°	3992.2	4133.5	4224.2	4277.2	4301.3	4339.8	4356.7	4353.4
55°	3717.7	3818.0	3854.1	3873.4	3888.6	3924.8	3936.8	3931.2
57.5°	3411.0	3470.4	3482.4	3489.7	3471.2	3439.9	3404.6	3371.7
60°	3093.1	3127.6	3136.4	3130.8	3108.3	3069.8	3025.7	3010.4
62.5°	2772.0	2801.7	2811.3	2792.9	2759.1	2727.8	2694.9	2694.9
65°	2466.9	2503.1	2501.4	2472.5	2404.3	2357.7	2315.2	2307.2
67.5°	2179.5	2186.8	2160.3	2119.3	2061.5	2029.4	1996.5	1988.5
70°	1872.9	1874.5	1852.0	1817.5	1778.1	1758.9	1742.8	1732.4
72.5°	1616.8	1619.2	1604.7	1583.1	1568.6	1551.0	1540.5	1543.7
75°	1400.0	1410.5	1406.5	1399.2	1387.2	1372.7	1363.1	1356.7
77.5°	1217.8	1230.7	1233.1	1231.5	1222.6	1210.6	1201.0	1201.8
80°	1056.5	1070.1	1072.5	1072.5	1063.7	1051.6	1037.2	1040.4
82.5°	903.9	917.6	924.0	917.6	912.0	899.9	890.3	890.3
85°	765.8	777.9	783.5	779.5	770.7	760.2	751.4	751.4
87.5°	645.4	659.1	669.5	669.5	665.5	657.5	652.7	650.2
90°	435.1	445.5	454.4	452.8	442.3	442.3	429.5	435.1
92.5°	353.2	361.2	364.5	362.1	357.2	350.0	342.8	342.8
95°	287.4	293.8	298.6	298.6	295.4	290.6	287.4	285.0
97.5°	217.6	223.2	228.8	228.8	227.2	221.6	218.4	215.9
100°	163.0	166.2	168.6	168.6	167.0	162.2	159.8	158.1
102.5°	124.4	124.4	125.2	125.2	122.0	118.0	115.6	114.0
105°	96.3	95.5	94.7	93.1	89.9	87.5	85.1	82.7
107.5°	82.7	77.1	73.9	71.4	67.4	65.8	62.6	60.2
110°	81.9	75.5	69.0	62.6	57.0	53.8	49.8	47.4



TEST NUMBER: P236476

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	89.9	79.5	69.0	61.0	57.8	54.6	51.4	49.0
115°	80.3	78.7	76.3	70.6	65.8	60.2	54.6	51.4
117.5°	88.3	73.1	65.8	62.6	62.6	61.0	58.6	56.2
120°	108.4	90.7	75.5	65.0	59.4	54.6	49.8	47.4
122.5°	126.0	106.8	92.3	83.5	75.5	68.2	61.8	58.6
125°	142.9	122.8	109.2	98.7	90.7	84.3	77.9	73.9
127.5°	141.3	158.1	124.4	114.0	106.0	98.7	93.1	89.1
130°	151.7	130.9	133.3	150.9	124.4	114.8	108.4	105.2
132.5°	185.4	167.0	135.7	123.6	118.8	122.0	122.0	122.8
135°	182.2	179.0	175.8	163.8	138.1	126.0	117.2	113.2
137.5°	169.4	173.4	174.2	172.6	171.0	168.6	163.8	158.9
140°	152.5	158.1	162.2	165.4	167.0	164.6	161.4	158.9
142.5°	136.5	142.1	146.1	150.1	152.5	153.3	151.7	150.1
145°	139.7	124.4	130.9	134.1	136.5	136.5	137.3	134.9
147.5°	152.5	153.3	129.2	114.8	120.4	121.2	119.6	118.8
150°	132.5	139.7	150.9	153.3	147.7	128.4	118.0	113.2
152.5°	146.1	131.7	129.2	130.9	135.7	136.5	137.3	135.7
155°	189.5	167.0	145.3	130.0	122.8	119.6	114.8	112.4
157.5°	203.1	198.3	191.1	178.2	163.8	152.5	141.3	136.5
160°	200.7	203.9	203.9	202.3	198.3	191.9	186.2	182.2
162.5°	192.7	199.1	201.5	203.1	203.1	200.7	195.9	192.7
165°	179.0	187.0	191.9	196.7	199.9	199.1	195.1	191.1
167.5°	138.9	160.6	175.0	183.8	190.3	192.7	190.3	187.0
170°	134.1	131.7	131.7	135.7	139.7	145.3	146.1	147.7
172.5°	154.1	143.7	141.3	141.3	142.9	146.9	148.5	145.3
175°	198.3	191.1	187.0	184.6	184.6	191.9	194.3	189.5
177.5°	212.7	207.9	203.1	200.7	205.5	209.5	214.3	203.1
180°	230.4	230.4	230.4	230.4	230.4	230.4	230.4	230.4

(END OF REPORT)