

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: P236536

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236536
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24078)
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 all blades tilted out 20 degrees
Description: METALUX SKYBAR LED WAVESTREAM LUMINAIRE
4 BLADES WITH WIDE DISTRIBUTION LENS, ALL BLADES TILTED OUT 20 DEGREES
Light Source: (952) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

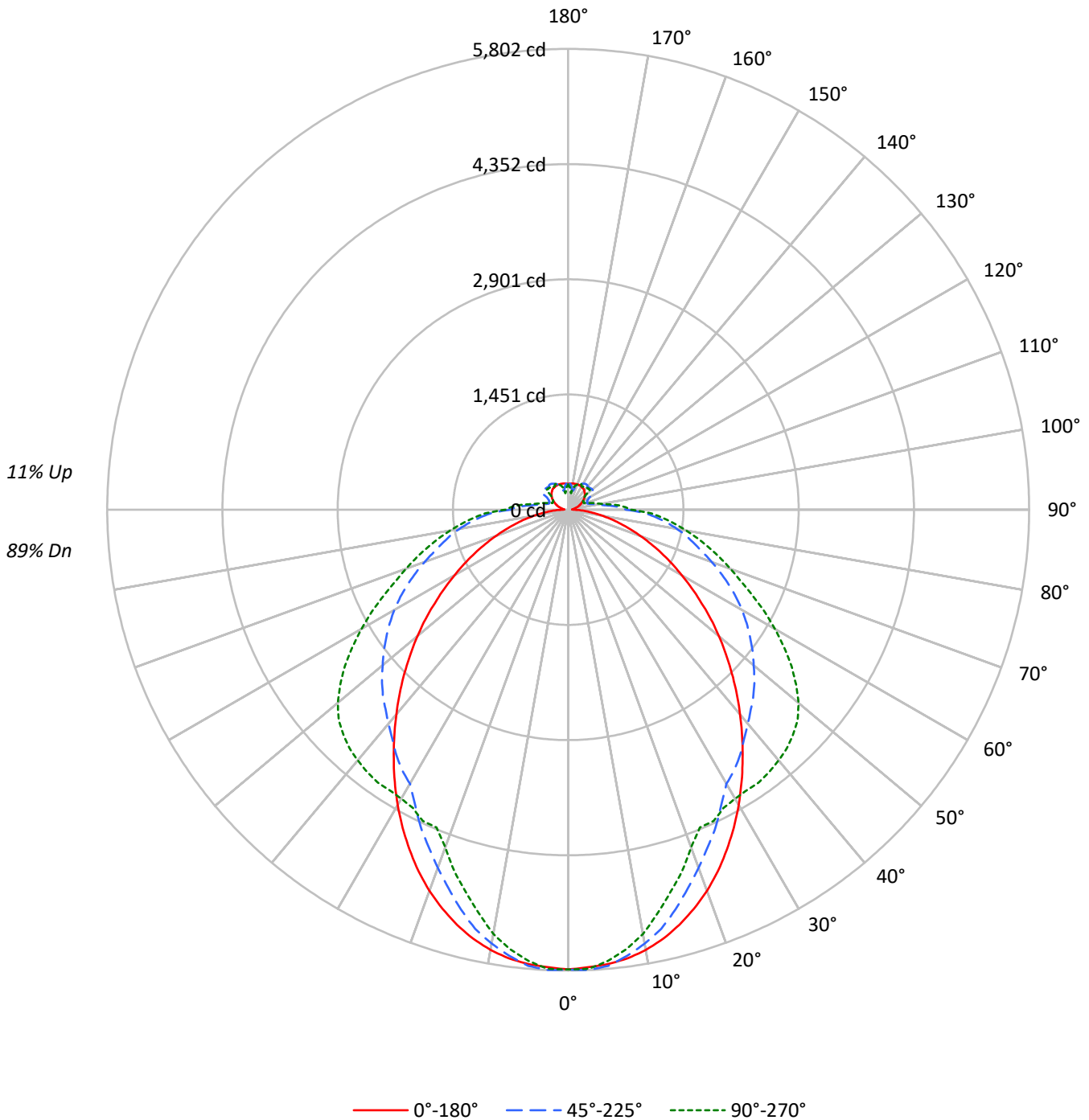
Lumens per Lamp: N/A
Luminaire Lumens: 18377.0 lumens
Efficiency: N/A
Efficacy: 128.2 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 1.07 / 1.26
Luminous Opening: Rectangular w/ Sides (W: 1.88' x L: 4' x H: 0.21')
CIE Type: Semi-Direct

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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CATALOG NUMBER: SKB4-LD5-18-W-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	0
RCR																		
0	116	116	116	116	112	112	112	112	105	105	105	98	98	98	91	91	91	89
1	104	99	94	89	100	95	91	87	89	85	82	83	80	77	77	75	73	70
2	94	85	78	71	90	82	75	70	77	71	66	72	67	63	67	63	60	57
3	86	74	66	59	82	72	64	57	67	60	55	63	57	53	59	54	50	47
4	78	66	56	49	75	63	55	48	59	52	47	56	50	45	52	47	43	40
5	72	58	49	42	69	57	48	42	53	46	40	50	44	39	47	42	37	35
6	66	53	43	37	64	51	42	36	48	41	35	45	39	34	43	37	33	30
7	61	48	39	32	59	46	38	32	44	36	31	41	35	30	39	33	29	27
8	57	43	35	29	55	42	34	28	40	33	28	38	31	27	36	30	26	24
9	53	40	32	26	51	39	31	26	37	30	25	35	29	24	33	28	23	21
10	50	37	29	24	48	36	28	23	34	27	23	32	26	22	31	25	21	19

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8307	8307	8307
5°	8236	8221	8138
10°	8127	7924	7754
15°	7927	7513	7187
20°	7655	7032	6638
25°	7301	6610	6512
30°	6906	6190	6542
35°	6472	6114	6810
40°	6041	6008	7061
45°	5621	6002	7314
50°	5206	5984	7463
55°	4769	6003	7406
60°	4351	6045	7231
65°	3957	6069	7022
70°	3555	6126	6978
75°	3177	6359	7173
80°	2789	6948	7646
85°	2366	7904	8669



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	542.2	3.0
10°-20°	1464.1	8.0
20°-30°	2056.6	11.2
30°-40°	2439.7	13.3
40°-50°	2612.4	14.2
50°-60°	2481.2	13.5
60°-70°	2070.4	11.3
70°-80°	1565.9	8.5
80°-90°	1034.4	5.6
90°-100°	514.7	2.8
100°-110°	297.1	1.6
110°-120°	258.7	1.4
120°-130°	278.4	1.5
130°-140°	273.9	1.5
140°-150°	218.3	1.2
150°-160°	155.8	0.8
160°-170°	84.7	0.5
170°-180°	28.5	0.2
0°-30°	4062.9	22.1
0°-40°	6502.6	35.4
0°-60°	11596.3	63.1
0°-90°	16266.9	88.5
90°-120°	1070.4	5.8
90°-150°	1841.1	10.0
90°-180°	2110.0	11.5
0°-180°	18377.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5788	5788	5788	5788	5788	
5°	5743	5788	5764	5717	5704	545
15°	5409	5383	5213	5032	4981	1522
25°	4723	4631	4399	4259	4325	2171
35°	3828	3754	3771	4032	4189	2394
45°	2914	2985	3298	3807	4004	2249
55°	2048	2282	2795	3288	3430	1838
65°	1296	1680	2229	2514	2560	1288
75°	684	1222	1641	1804	1830	729
85°	229	804	1113	1180	1195	232
90°	67	512	726	771	788	46
95°	63	348	546	620	638	53
105°	106	260	280	316	323	114
115°	177	348	264	230	214	176
125°	245	366	394	270	240	218
135°	295	351	386	383	368	227
145°	328	320	392	362	348	205
155°	339	255	357	371	358	156
165°	337	295	256	308	304	96
175°	332	329	328	306	280	32
180°	318	318	318	318	318	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	5788.3	5788.3	5788.3	5788.3	5788.3	5788.3	5788.3	5788.3	5788.3	5788.3	5788.3
2.5°	5765.9	5781.3	5816.5	5821.6	5818.4	5803.1	5794.7	5817.1	5806.3	5801.8	5791.5
5°	5742.9	5758.9	5795.4	5799.9	5796.0	5779.4	5770.4	5790.3	5774.9	5764.0	5744.8
7.5°	5699.4	5710.9	5746.7	5753.1	5743.5	5721.8	5704.5	5712.8	5685.3	5666.7	5645.0
10°	5627.7	5639.2	5674.4	5677.6	5659.0	5627.0	5599.5	5597.0	5572.6	5547.7	5517.6
12.5°	5532.9	5541.9	5575.8	5573.9	5542.5	5507.3	5478.5	5468.9	5436.3	5406.2	5367.8
15°	5409.4	5419.0	5449.1	5438.9	5402.4	5362.7	5331.3	5318.5	5267.9	5212.9	5155.9
17.5°	5267.3	5278.8	5298.0	5282.7	5246.2	5200.7	5164.3	5128.4	5059.3	5000.4	4944.7
20°	5107.3	5106.6	5125.2	5107.3	5068.2	5020.2	4963.9	4912.1	4845.5	4797.5	4742.4
22.5°	4924.9	4930.6	4935.1	4922.3	4880.1	4812.8	4747.6	4700.2	4640.0	4593.9	4540.8
25°	4722.6	4729.0	4729.6	4713.0	4669.5	4592.7	4533.8	4493.4	4436.5	4398.7	4327.0
27.5°	4513.3	4511.4	4522.2	4507.5	4443.5	4368.6	4324.5	4285.4	4240.6	4177.2	4119.0
30°	4292.4	4280.9	4298.9	4280.3	4212.4	4152.3	4109.4	4089.5	4026.2	3983.9	4022.3
32.5°	4062.0	4050.5	4070.3	4046.7	3983.9	3946.2	3914.8	3884.7	3841.2	3888.6	3931.4
35°	3828.4	3816.9	3838.0	3812.4	3764.4	3743.3	3715.7	3692.0	3727.9	3771.4	3809.8
37.5°	3595.4	3584.5	3606.9	3581.3	3554.4	3553.8	3519.9	3557.6	3594.8	3635.7	3707.4
40°	3365.6	3356.6	3379.0	3361.1	3353.4	3361.1	3353.4	3419.4	3445.6	3517.3	3609.5
42.5°	3137.7	3135.8	3154.4	3148.0	3164.0	3173.6	3208.1	3262.5	3309.3	3403.4	3522.4
45°	2913.7	2913.7	2932.9	2943.1	2970.7	2998.8	3048.8	3103.2	3178.7	3298.4	3418.1
47.5°	2692.2	2694.8	2717.2	2746.6	2779.9	2835.0	2888.1	2956.6	3057.7	3178.7	3297.7
50°	2476.5	2479.1	2508.5	2554.0	2595.6	2665.3	2721.7	2810.6	2927.1	3048.8	3182.5
52.5°	2264.6	2268.5	2308.8	2358.1	2417.6	2491.2	2567.4	2679.4	2791.4	2923.9	3061.6
55°	2047.7	2063.0	2111.7	2166.1	2243.5	2319.7	2416.3	2540.5	2659.6	2794.6	2924.6
57.5°	1847.3	1863.3	1917.1	1980.4	2072.0	2159.7	2281.9	2405.5	2531.6	2662.1	2787.0
60°	1652.7	1670.0	1727.0	1801.9	1906.8	2015.0	2147.5	2280.6	2401.0	2527.1	2634.0
62.5°	1474.8	1485.0	1538.8	1631.6	1749.4	1878.7	2022.7	2154.5	2269.1	2381.1	2479.1
65°	1295.5	1307.7	1360.2	1472.2	1605.3	1755.1	1904.9	2029.1	2131.5	2229.4	2315.2
67.5°	1127.2	1142.6	1196.3	1327.5	1478.0	1640.6	1782.7	1896.6	1988.8	2075.2	2148.8
70°	968.5	982.5	1047.2	1199.5	1366.6	1526.0	1654.6	1761.5	1843.5	1922.8	1986.2
72.5°	820.0	836.0	916.6	1087.5	1264.2	1411.4	1524.1	1622.6	1702.6	1770.5	1832.6
75°	684.3	699.6	804.6	993.4	1156.0	1287.9	1396.0	1491.4	1568.2	1640.6	1698.8
77.5°	556.2	580.6	713.7	901.2	1044.0	1168.2	1272.5	1373.0	1455.6	1519.6	1563.1
80°	437.2	478.1	635.0	804.6	935.2	1059.4	1170.7	1270.6	1339.1	1390.9	1424.8
82.5°	327.1	389.8	555.0	706.0	835.3	966.5	1069.0	1156.0	1214.3	1255.9	1281.5
85°	229.2	309.8	471.1	617.7	745.1	863.5	953.7	1028.6	1077.9	1113.1	1133.0
87.5°	152.3	238.1	393.0	523.6	634.3	740.6	819.3	887.2	931.3	964.6	983.8
90°	67.2	179.2	300.8	391.1	474.3	549.2	613.2	669.5	702.2	725.9	732.9
92.5°	51.2	134.4	236.8	323.2	400.7	476.2	544.1	599.8	637.5	661.2	669.5
95°	63.4	111.4	183.1	247.1	315.6	379.6	432.7	479.4	517.2	546.0	562.6
97.5°	67.2	115.2	174.1	215.7	259.9	316.2	363.6	400.7	423.7	439.7	446.1
100°	76.8	124.2	191.4	213.2	241.3	268.2	307.9	343.1	364.2	377.7	384.1
102.5°	89.6	131.9	207.4	231.7	242.0	261.2	271.4	291.2	311.7	326.4	333.5
105°	105.6	138.9	222.1	265.6	258.6	261.8	270.1	270.8	270.1	280.4	286.8
107.5°	126.7	144.0	231.1	278.4	300.2	277.2	272.0	271.4	265.6	253.5	250.9
110°	145.3	146.6	226.6	286.8	319.4	306.6	285.5	274.6	265.0	256.7	245.8



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CATALOG NUMBER: SKB4-LD5-18-W-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°	160.7	152.3	227.2	298.3	329.6	352.0	311.1	288.0	269.5	255.4	245.8
115°	177.3	156.8	230.4	302.1	335.4	360.4	372.5	313.6	284.8	264.4	249.0
117.5°	195.2	163.9	235.6	300.2	343.7	368.7	380.2	380.9	311.1	281.6	260.5
120°	211.9	171.5	237.5	300.2	359.1	371.3	385.3	392.4	380.2	309.2	279.1
122.5°	229.2	182.4	240.0	300.8	350.8	375.1	390.5	395.6	395.6	383.4	313.0
125°	245.2	195.9	238.8	301.5	350.8	382.1	388.5	398.1	396.9	394.3	391.1
127.5°	259.9	211.9	235.6	300.8	347.6	380.9	387.9	395.6	398.1	394.9	391.7
130°	272.0	226.0	223.4	297.0	341.8	378.3	389.2	392.4	396.9	395.6	390.5
132.5°	282.9	239.4	214.4	293.8	338.0	375.1	391.7	391.7	391.7	393.0	389.2
135°	295.1	261.2	217.0	288.7	334.1	368.1	389.2	397.5	389.2	386.0	386.0
137.5°	305.3	283.6	220.8	281.6	329.0	361.7	385.3	396.2	384.1	383.4	380.2
140°	314.3	303.4	229.2	272.0	322.6	355.9	376.4	392.4	395.6	377.7	377.7
142.5°	323.2	320.7	242.6	251.6	313.6	347.6	368.1	385.3	393.7	393.0	370.6
145°	327.7	330.3	257.3	236.2	302.1	338.0	359.7	375.7	387.9	391.7	389.2
147.5°	330.9	334.1	268.2	234.9	287.4	326.4	351.4	367.4	378.9	387.3	387.9
150°	334.1	336.0	284.2	241.3	262.4	314.3	340.5	358.5	370.0	378.3	382.1
152.5°	337.3	338.0	307.2	254.8	242.6	298.3	327.1	346.9	359.7	368.7	371.9
155°	338.6	339.2	325.8	271.4	241.3	268.8	310.4	332.2	346.9	357.2	361.0
157.5°	339.9	339.2	338.6	284.2	252.8	243.9	288.0	314.9	331.6	343.7	349.5
160°	339.2	338.6	343.1	307.9	269.5	243.9	247.7	291.2	311.1	325.8	333.5
162.5°	338.6	338.0	340.5	329.0	284.2	259.2	242.0	245.8	281.6	303.4	313.0
165°	337.3	336.7	338.0	340.5	313.0	277.2	257.3	243.2	240.0	256.0	281.0
167.5°	336.0	335.4	336.0	338.6	334.1	307.9	278.4	263.7	249.0	237.5	234.9
170°	334.8	334.1	334.1	334.1	336.7	332.8	314.9	291.2	272.0	263.1	248.4
172.5°	333.5	332.8	332.8	332.8	332.2	332.2	335.4	329.6	316.8	302.1	284.2
175°	331.6	330.9	330.9	330.9	329.6	328.4	328.4	328.4	327.1	328.4	326.4
177.5°	330.3	329.6	329.6	329.0	327.7	326.4	326.4	325.8	323.2	322.0	318.8
180°	317.5	317.5	317.5	317.5	317.5	317.5	317.5	317.5	317.5	317.5	317.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	5788.3	5788.3	5788.3	5788.3	5788.3	5788.3	5788.3	5788.3
2.5°	5770.4	5780.0	5793.5	5776.8	5779.4	5792.8	5789.0	5785.8
5°	5719.9	5723.7	5728.2	5706.4	5705.1	5716.7	5705.1	5703.9
7.5°	5616.2	5614.2	5618.1	5589.3	5587.4	5597.0	5588.0	5582.9
10°	5488.1	5483.0	5479.8	5449.1	5438.9	5441.4	5432.5	5424.8
12.5°	5317.9	5292.3	5273.7	5239.1	5224.4	5223.1	5206.5	5201.4
15°	5101.5	5074.6	5051.0	5013.8	5004.2	5007.4	4994.0	4981.2
17.5°	4892.9	4866.0	4842.9	4803.2	4795.6	4800.0	4774.4	4770.0
20°	4692.5	4661.8	4641.9	4597.8	4579.2	4574.7	4533.1	4522.2
22.5°	4499.2	4452.5	4396.1	4353.3	4345.6	4352.0	4346.2	4328.9
25°	4257.9	4232.3	4245.7	4272.0	4310.4	4336.6	4337.9	4325.1
27.5°	4126.0	4177.2	4214.4	4218.8	4232.9	4249.6	4250.2	4234.2
30°	4069.7	4087.0	4105.5	4136.9	4178.5	4206.7	4213.7	4200.9
32.5°	3950.6	3995.4	4045.4	4093.4	4145.2	4183.0	4195.2	4185.6
35°	3864.2	3928.9	3998.6	4065.9	4129.2	4174.7	4194.5	4189.4
37.5°	3782.9	3872.5	3960.2	4040.9	4104.9	4143.9	4160.0	4159.3
40°	3713.2	3814.9	3902.0	3985.2	4052.4	4098.5	4117.1	4120.3
42.5°	3631.2	3729.2	3832.9	3928.9	4001.8	4050.5	4070.3	4074.8
45°	3526.3	3640.2	3756.7	3857.2	3923.1	3972.4	3996.7	4003.8
47.5°	3421.9	3544.2	3662.0	3760.5	3823.9	3879.0	3905.8	3916.1
50°	3307.3	3429.6	3550.6	3642.8	3702.3	3756.1	3778.5	3784.9
52.5°	3180.6	3305.4	3417.4	3501.3	3545.5	3594.1	3612.7	3614.6
55°	3048.1	3160.1	3254.2	3322.1	3365.6	3413.0	3427.0	3429.6
57.5°	2893.9	2991.1	3073.1	3135.8	3168.4	3208.1	3217.1	3220.3
60°	2729.3	2813.2	2881.7	2933.5	2960.4	2991.8	2999.5	3003.9
62.5°	2561.0	2623.1	2687.1	2733.2	2750.5	2778.6	2784.4	2787.0
65°	2381.1	2436.2	2496.4	2531.6	2543.7	2561.0	2559.7	2560.4
67.5°	2204.5	2253.8	2297.9	2334.4	2345.9	2352.3	2356.8	2352.3
70°	2030.4	2071.3	2116.8	2141.7	2162.9	2164.8	2172.5	2170.5
72.5°	1878.0	1917.7	1954.2	1976.0	1994.5	1994.5	2004.1	1998.4
75°	1737.8	1767.9	1796.1	1812.7	1828.7	1825.5	1835.1	1830.0
77.5°	1591.3	1614.3	1635.4	1654.0	1668.1	1673.2	1673.8	1668.1
80°	1446.0	1463.9	1479.9	1495.9	1508.1	1504.9	1513.2	1508.1
82.5°	1295.5	1309.0	1323.7	1337.8	1348.7	1351.2	1351.9	1346.8
85°	1144.5	1157.9	1175.2	1184.8	1195.0	1198.3	1198.9	1195.0
87.5°	994.7	1008.1	1025.4	1035.0	1045.9	1048.5	1049.1	1045.9
90°	743.1	756.6	764.3	777.7	781.6	787.3	779.6	788.0
92.5°	681.1	692.6	702.2	712.4	717.5	720.7	717.5	721.4
95°	583.1	601.0	613.2	626.0	632.4	637.5	636.9	638.2
97.5°	456.4	471.7	487.1	503.8	511.4	518.5	517.8	518.5
100°	393.7	402.6	409.7	417.3	420.5	421.2	420.5	421.2
102.5°	342.4	351.4	359.1	366.1	368.1	370.6	370.0	368.7
105°	296.4	305.3	313.0	319.4	322.0	324.5	324.5	323.2
107.5°	258.0	264.4	271.4	277.2	280.4	281.6	282.9	281.6
110°	236.8	235.6	238.8	242.6	244.5	245.8	244.5	243.9



TEST NUMBER: P236536

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	240.7	234.9	226.6	220.8	220.2	220.2	217.6	216.4
115°	239.4	234.9	231.1	228.5	225.3	222.1	217.6	214.4
117.5°	247.1	237.5	230.4	227.2	224.7	222.1	218.9	216.4
120°	261.8	249.0	238.8	232.4	227.9	224.0	219.6	217.0
122.5°	284.2	266.9	254.1	245.2	239.4	233.6	229.2	226.0
125°	325.2	294.4	275.9	263.7	256.0	249.0	243.2	240.0
127.5°	390.5	361.7	313.6	292.5	280.4	270.1	263.1	259.2
130°	389.2	388.5	386.6	370.6	325.8	308.5	297.6	291.9
132.5°	387.3	387.9	386.0	383.4	380.9	376.4	371.3	369.3
135°	386.0	384.7	383.4	382.1	378.9	375.1	370.0	368.1
137.5°	381.5	382.1	381.5	378.9	375.7	371.9	367.4	365.5
140°	375.7	375.1	375.7	375.7	373.8	369.3	364.9	362.3
142.5°	371.9	370.0	368.1	367.4	366.8	363.6	359.1	357.8
145°	378.9	363.6	362.9	361.0	359.1	355.3	350.8	348.2
147.5°	387.3	384.1	363.6	353.3	352.7	349.5	345.0	342.4
150°	384.7	384.1	380.2	377.0	371.9	361.0	348.2	339.2
152.5°	376.4	380.2	378.9	377.0	373.2	368.7	362.9	360.4
155°	366.1	370.0	370.6	370.6	368.7	365.5	360.4	357.8
157.5°	355.3	359.1	359.7	360.4	358.5	355.9	351.4	349.5
160°	340.5	345.6	346.9	347.6	345.6	343.7	339.2	337.3
162.5°	321.3	328.4	331.6	332.2	331.6	329.6	325.8	323.9
165°	294.4	303.4	307.2	309.2	309.8	308.5	305.3	304.0
167.5°	240.0	256.0	270.1	278.4	279.1	277.8	275.2	274.6
170°	240.0	233.6	227.2	224.7	221.5	217.0	213.8	211.2
172.5°	269.5	263.1	257.3	249.6	241.3	233.0	227.2	224.7
175°	322.0	317.5	309.8	302.8	295.1	288.0	282.3	279.7
177.5°	316.8	316.2	313.6	309.8	306.0	301.5	295.7	292.5
180°	317.5	317.5	317.5	317.5	317.5	317.5	317.5	317.5

(END OF REPORT)