

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: P236479

Luminaire Tested: **SKB4-LD5-24-N-UNV-L840-CD4-U all blades tilted out 20 degrees**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236479
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-LD5-24-N-UNV-L840-CD4-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

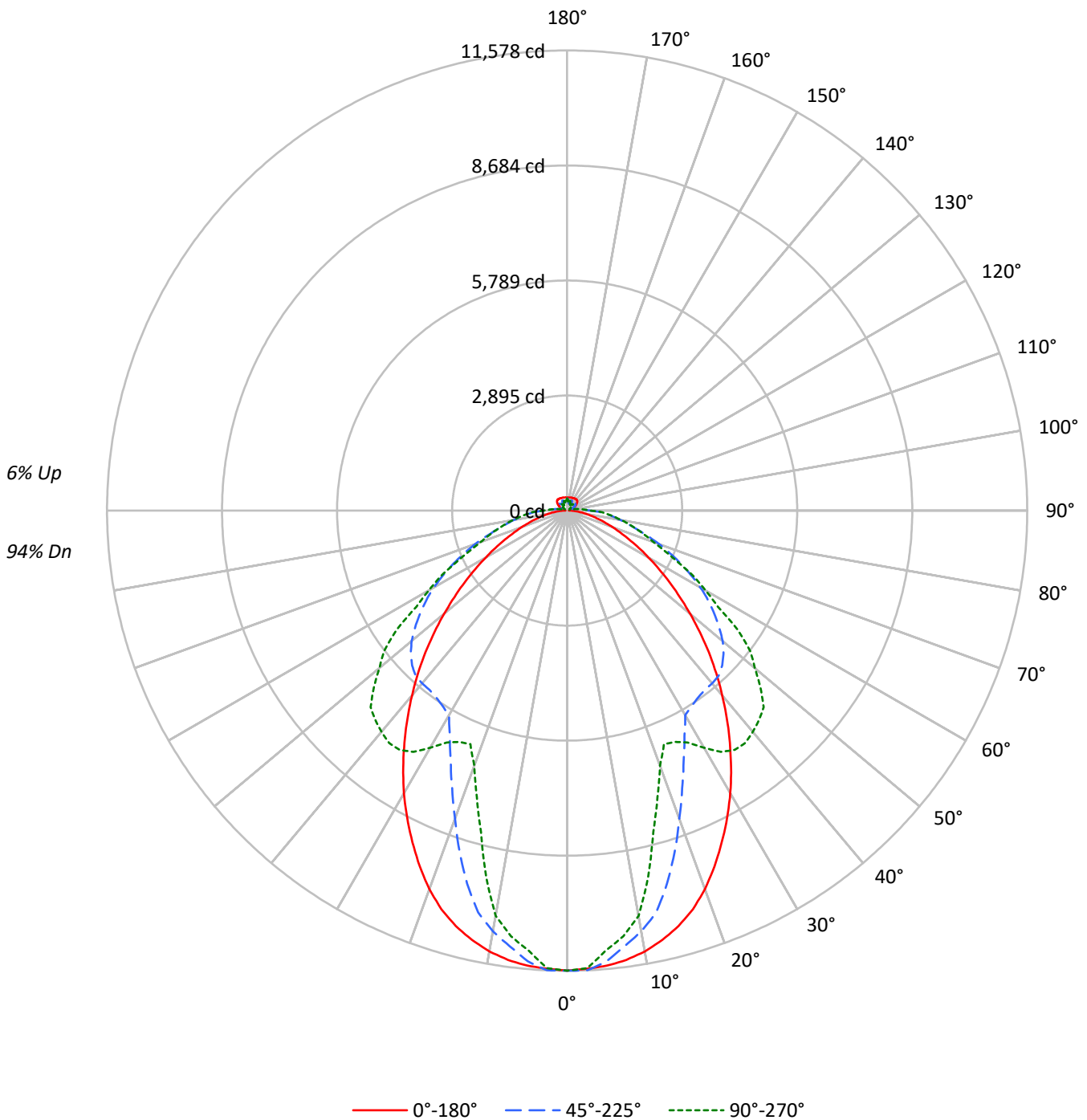
Lumens per Lamp: N/A
Luminaire Lumens: 26358.0 lumens
Efficiency: N/A
Efficacy: 127.8 lumens/watt
Spacing Criteria (0/90/45): 1.08 / 0.71 / 1.1
Luminous Opening: Rectangular w/ Sides (W: 1.88' x L: 4' x H: 0.21')
CIE Type: Direct

Input Watts (W): 206.2
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-LD5-24-N-UNV-L840-CD4-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	118	118	118	118	114	114	114	114	108	108	108	102	102	102	97	97	97	94
1	107	102	98	94	104	99	95	91	94	91	88	89	86	84	85	82	80	78
2	97	89	82	76	94	87	80	75	82	77	72	78	74	70	74	71	68	65
3	89	78	70	64	86	76	69	63	73	66	61	69	64	59	66	61	58	55
4	82	70	61	54	79	68	60	54	65	58	52	62	56	51	59	54	50	47
5	75	62	54	47	73	61	53	46	58	51	45	56	49	44	53	48	43	41
6	70	56	48	41	67	55	47	41	53	45	40	51	44	39	49	43	38	36
7	65	51	43	37	63	50	42	36	48	41	36	46	40	35	44	39	34	32
8	60	47	39	33	58	46	38	32	44	37	32	43	36	31	41	35	31	29
9	56	43	35	30	55	42	35	29	41	34	29	39	33	29	38	32	28	26
10	53	40	32	27	51	39	32	27	38	31	26	37	30	26	35	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16613	16613	16613
5°	16483	16237	15862
10°	16263	15354	14797
15°	15860	14002	12074
20°	15188	12094	10026
25°	14235	10421	9665
30°	13208	9234	10728
35°	12061	9308	11947
40°	10903	9693	12456
45°	9720	10033	12776
50°	8482	10024	12160
55°	7321	9709	11326
60°	6229	9265	9668
65°	5251	8584	8442
70°	4451	7842	7430
75°	3715	7020	7095
80°	3144	6763	7038
85°	2598	7012	7272



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1066.3	4.0
10°-20°	2696.0	10.2
20°-30°	3440.4	13.1
30°-40°	4091.9	15.5
40°-50°	4351.7	16.5
50°-60°	3813.2	14.5
60°-70°	2748.5	10.4
70°-80°	1730.7	6.6
80°-90°	966.5	3.7
90°-100°	370.4	1.4
100°-110°	186.0	0.7
110°-120°	175.3	0.7
120°-130°	189.7	0.7
130°-140°	183.3	0.7
140°-150°	142.3	0.5
150°-160°	109.7	0.4
160°-170°	71.1	0.3
170°-180°	25.0	0.1
0°-30°	7202.7	27.3
0°-40°	11294.6	42.9
0°-60°	19459.5	73.8
0°-90°	24905.2	94.5
90°-120°	731.7	2.8
90°-150°	1247.0	4.7
90°-180°	1453.0	5.5
0°-180°	26358.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	11576	11576	11576	11576	11576	
5°	11493	11545	11384	11155	11117	###
15°	10823	10495	9715	8752	8368	3038
25°	9208	8512	6935	6289	6420	4231
35°	7135	6239	5742	6916	7350	4458
45°	5038	4422	5514	6678	6994	3884
55°	3144	3204	4520	5155	5245	2825
65°	1719	2218	3153	3318	3078	1728
75°	800	1472	1811	1872	1810	866
85°	252	856	988	1043	1002	257
90°	66	502	572	605	580	45
95°	51	315	363	398	380	45
105°	102	267	145	125	110	110
115°	193	335	158	98	68	192
125°	287	265	226	139	98	256
135°	357	295	237	227	151	273
145°	361	282	196	177	180	227
155°	347	214	275	184	150	161
165°	340	239	206	259	255	96
175°	331	315	277	248	253	32
180°	307	307	307	307	307	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	11575.8	11575.8	11575.8	11575.8	11575.8	11575.8	11575.8	11575.8	11575.8	11575.8	11575.8
2.5°	11537.3	11582.3	11610.1	11646.5	11629.4	11582.3	11586.6	11611.2	11571.6	11578.0	11538.4
5°	11493.4	11539.4	11563.0	11595.1	11574.8	11515.9	11496.6	11489.1	11410.9	11384.1	11288.8
7.5°	11403.4	11448.4	11466.6	11489.1	11431.3	11323.1	11253.5	11196.7	11096.0	11055.3	10968.6
10°	11262.0	11301.7	11308.1	11289.9	11187.1	11050.0	10962.1	10906.4	10801.5	10750.1	10644.0
12.5°	11065.0	11096.0	11074.6	11031.8	10905.4	10759.7	10673.0	10571.2	10440.5	10355.9	10191.0
15°	10822.9	10835.8	10781.1	10725.4	10581.9	10407.3	10278.8	10121.4	9918.9	9715.4	9454.1
17.5°	10516.6	10516.6	10442.7	10373.1	10191.0	9958.6	9771.1	9528.0	9258.1	9001.1	8663.7
20°	10133.1	10133.1	10047.5	9961.8	9717.6	9440.2	9202.4	8904.7	8567.3	8251.3	7905.4
22.5°	9692.9	9706.9	9616.9	9487.3	9206.7	8898.2	8638.0	8247.0	7873.2	7561.6	7230.6
25°	9207.8	9217.4	9125.3	8979.6	8681.9	8342.4	8006.1	7594.8	7227.4	6935.0	6637.3
27.5°	8719.4	8729.0	8628.3	8455.9	8134.6	7759.7	7394.5	6984.3	6661.9	6389.8	6121.0
30°	8209.6	8211.7	8087.5	7918.2	7574.4	7157.8	6809.7	6450.9	6147.8	5943.2	5996.8
32.5°	7677.2	7681.5	7565.9	7370.9	7003.6	6584.8	6281.7	5961.4	5732.2	5832.9	5955.0
35°	7135.3	7133.2	7029.3	6817.2	6427.3	6051.4	5806.1	5516.9	5593.0	5741.9	5948.6
37.5°	6600.8	6595.5	6491.6	6265.6	5882.2	5569.4	5335.9	5311.3	5454.8	5685.1	6018.2
40°	6073.9	6073.9	5953.9	5716.2	5372.4	5132.4	4986.8	5133.5	5327.4	5674.4	6055.7
42.5°	5553.4	5543.7	5421.6	5183.9	4908.6	4700.8	4769.4	4948.2	5237.4	5641.2	5986.1
45°	5038.2	5020.0	4901.1	4686.9	4485.5	4358.1	4535.9	4776.9	5135.7	5513.7	5845.8
47.5°	4526.2	4513.4	4400.9	4228.5	4080.7	4103.2	4289.5	4610.8	4973.9	5335.9	5651.9
50°	4034.6	4026.1	3925.4	3810.8	3704.7	3824.7	4068.9	4425.6	4766.1	5106.7	5389.5
52.5°	3575.1	3565.5	3483.0	3424.1	3400.6	3545.2	3846.1	4191.0	4514.4	4822.9	5096.0
55°	3143.5	3132.8	3076.0	3058.9	3121.0	3287.0	3616.9	3938.2	4233.8	4519.8	4760.8
57.5°	2740.8	2734.4	2705.5	2714.0	2835.1	3042.8	3364.1	3668.3	3936.1	4207.1	4409.5
60°	2365.9	2367.0	2368.1	2418.4	2567.3	2802.9	3108.2	3384.5	3638.3	3872.9	4023.9
62.5°	2040.3	2029.6	2056.4	2160.3	2323.1	2566.2	2846.8	3102.8	3321.3	3513.0	3624.4
65°	1719.0	1736.2	1771.5	1918.2	2101.4	2334.9	2598.4	2816.8	3000.0	3153.2	3238.8
67.5°	1444.8	1467.3	1515.5	1698.7	1901.1	2122.8	2353.1	2530.9	2683.0	2796.5	2865.0
70°	1212.4	1231.7	1301.3	1507.0	1721.2	1923.6	2110.0	2256.7	2376.6	2461.3	2500.9
72.5°	996.1	1026.1	1134.2	1345.2	1565.9	1729.7	1878.6	2000.7	2091.7	2114.2	2149.6
75°	800.1	841.8	984.3	1210.3	1402.0	1542.3	1667.6	1747.9	1791.9	1811.1	1851.8
77.5°	637.3	680.1	856.8	1089.3	1249.9	1368.8	1458.8	1504.8	1546.6	1570.2	1607.6
80°	492.7	540.9	752.9	955.4	1105.3	1196.4	1262.8	1303.5	1332.4	1353.8	1390.2
82.5°	370.6	434.8	651.2	834.3	959.7	1048.6	1092.5	1122.5	1140.7	1165.3	1195.3
85°	251.7	349.2	543.0	708.0	820.4	892.2	923.2	944.7	963.9	987.5	1013.2
87.5°	155.3	267.8	445.6	578.4	669.4	728.3	750.8	764.7	788.3	815.1	844.0
90°	66.4	192.8	325.6	427.3	487.3	516.2	538.7	540.9	561.2	571.9	598.7
92.5°	39.6	131.7	235.6	326.7	386.6	418.8	427.3	432.7	442.3	453.1	465.9
95°	51.4	105.0	183.1	249.6	301.0	329.9	339.5	349.2	354.5	363.1	374.9
97.5°	58.9	110.3	182.1	221.7	251.7	272.0	275.3	277.4	276.3	278.5	286.0
100°	70.7	124.2	207.8	233.5	244.2	237.8	231.3	226.0	219.6	215.3	216.4
102.5°	87.8	136.0	224.9	266.7	258.1	241.0	212.1	196.0	179.9	170.3	167.1
105°	101.7	142.4	236.7	301.0	284.9	249.6	220.6	190.6	164.9	144.6	133.9
107.5°	117.8	146.7	235.6	308.5	332.0	273.1	223.8	197.1	168.2	140.3	123.2
110°	148.9	158.5	233.5	302.0	342.7	307.4	250.6	198.1	166.0	147.8	126.4



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CATALOG NUMBER: SKB4-LD5-24-N-UNV-L840-CD4-U all blades tilted out 20 degrees

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	171.4	161.7	238.8	290.3	340.6	332.0	282.8	228.1	174.6	138.2	129.6
115°	192.8	168.2	244.2	275.3	327.7	341.7	312.7	259.2	204.6	158.5	122.1
117.5°	217.4	178.9	251.7	262.4	306.3	337.4	312.7	298.8	234.6	186.4	148.9
120°	241.0	191.7	256.0	275.3	292.4	320.2	326.7	282.8	276.3	213.1	174.6
122.5°	264.5	205.6	258.1	299.9	275.3	294.5	316.0	308.5	252.8	251.7	198.1
125°	287.0	220.6	257.1	312.7	261.3	268.8	294.5	304.2	287.0	226.0	228.1
127.5°	309.5	235.6	256.0	314.9	275.3	266.7	268.8	289.2	287.0	267.8	207.8
130°	329.9	250.6	244.2	313.8	306.3	247.4	245.3	263.5	274.2	269.9	257.1
132.5°	343.8	266.7	236.7	308.5	323.5	245.3	249.6	236.7	252.8	258.1	254.9
135°	356.7	281.7	231.3	298.8	321.3	267.8	226.0	232.4	226.0	236.7	242.1
137.5°	363.1	297.8	229.2	287.0	314.9	299.9	222.8	232.4	202.4	212.1	220.6
140°	365.2	308.5	229.2	269.9	305.2	306.3	250.6	206.7	224.9	187.4	198.1
142.5°	364.2	316.0	231.3	243.1	290.3	299.9	283.8	215.3	201.4	217.4	174.6
145°	360.9	320.2	232.4	218.5	273.1	291.3	291.3	253.8	199.2	196.0	212.1
147.5°	357.7	322.4	238.8	207.8	256.0	279.5	287.0	280.6	235.6	190.6	185.3
150°	355.6	324.5	256.0	208.9	231.3	265.6	279.5	281.7	272.0	230.3	188.5
152.5°	350.2	326.7	273.1	215.3	205.6	250.6	268.8	276.3	278.5	268.8	238.8
155°	347.0	328.8	286.0	221.7	200.3	227.1	253.8	266.7	273.1	275.3	271.0
157.5°	347.0	332.0	293.5	239.9	205.6	194.9	237.8	251.7	262.4	268.8	272.0
160°	344.9	334.2	298.8	262.4	212.1	196.0	198.1	235.6	247.4	257.1	263.5
162.5°	341.7	335.2	304.2	280.6	234.6	202.4	190.6	193.9	229.2	241.0	249.6
165°	339.5	335.2	313.8	291.3	261.3	217.4	200.3	188.5	183.1	205.6	231.3
167.5°	337.4	334.2	320.2	298.8	284.9	252.8	218.5	199.2	189.6	179.9	176.7
170°	334.2	332.0	325.6	311.7	293.5	282.8	260.3	233.5	206.7	191.7	183.1
172.5°	332.0	331.0	327.7	321.3	309.5	293.5	288.1	278.5	257.1	239.9	219.6
175°	331.0	329.9	328.8	326.7	320.2	310.6	305.2	294.5	283.8	277.4	271.0
177.5°	329.9	328.8	328.8	327.7	325.6	319.2	318.1	311.7	305.2	298.8	291.3
180°	307.4	307.4	307.4	307.4	307.4	307.4	307.4	307.4	307.4	307.4	307.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	11575.8	11575.8	11575.8	11575.8	11575.8	11575.8	11575.8	11575.8
2.5°	11521.2	11544.8	11529.8	11498.7	11513.7	11546.9	11539.4	11524.4
5°	11234.2	11226.7	11175.3	11134.6	11128.1	11143.1	11135.6	11117.4
7.5°	10925.7	10921.4	10889.3	10828.3	10833.6	10832.5	10818.6	10801.5
10°	10581.9	10549.8	10493.0	10437.3	10409.5	10403.0	10377.3	10352.7
12.5°	10078.5	9961.8	9820.4	9674.7	9610.5	9514.1	9461.6	9426.3
15°	9254.9	9036.4	8845.8	8658.3	8563.0	8464.5	8404.5	8368.1
17.5°	8414.1	8212.8	7982.5	7813.3	7728.7	7645.1	7594.8	7557.3
20°	7666.5	7475.9	7278.8	7121.4	7026.0	6930.7	6872.9	6830.0
22.5°	7006.8	6818.3	6609.4	6468.0	6402.7	6379.1	6371.6	6360.9
25°	6414.5	6277.4	6267.7	6310.6	6366.3	6402.7	6419.8	6419.8
27.5°	6129.6	6212.1	6287.0	6373.8	6472.3	6543.0	6576.2	6578.4
30°	6110.3	6243.1	6373.8	6534.4	6698.3	6823.6	6875.0	6889.0
32.5°	6131.7	6365.2	6593.3	6814.0	7007.8	7137.4	7191.0	7196.3
35°	6252.8	6556.9	6815.1	7016.4	7181.3	7284.2	7337.7	7349.5
37.5°	6373.8	6661.9	6875.0	7075.3	7227.4	7315.2	7354.9	7365.6
40°	6378.1	6649.0	6859.0	7041.0	7172.8	7232.8	7260.6	7268.1
42.5°	6298.8	6562.3	6760.4	6912.5	7033.5	7107.4	7137.4	7146.0
45°	6151.0	6395.2	6598.7	6758.3	6883.6	6953.2	6987.5	6993.9
47.5°	5919.7	6175.6	6385.6	6532.3	6610.5	6639.4	6606.2	6595.5
50°	5646.5	5880.0	6046.0	6149.9	6182.1	6178.9	6162.8	6167.1
52.5°	5326.3	5514.8	5635.8	5706.5	5738.7	5790.1	5812.6	5808.3
55°	4960.0	5093.9	5142.1	5167.8	5188.1	5236.3	5252.4	5244.9
57.5°	4550.9	4630.1	4646.2	4655.8	4631.2	4589.4	4542.3	4498.4
60°	4126.7	4172.8	4184.6	4177.1	4147.1	4095.7	4036.8	4016.4
62.5°	3698.3	3737.9	3750.8	3726.2	3681.2	3639.4	3595.5	3595.5
65°	3291.3	3339.5	3337.4	3298.8	3207.8	3145.7	3088.9	3078.2
67.5°	2907.9	2917.5	2882.2	2827.6	2750.4	2707.6	2663.7	2653.0
70°	2498.7	2500.9	2470.9	2424.8	2372.4	2346.7	2325.2	2311.3
72.5°	2157.1	2160.3	2141.0	2112.1	2092.8	2069.3	2055.3	2059.6
75°	1867.9	1881.8	1876.5	1866.8	1850.8	1831.5	1818.6	1810.1
77.5°	1624.8	1641.9	1645.1	1643.0	1631.2	1615.1	1602.3	1603.4
80°	1409.5	1427.7	1430.9	1430.9	1419.1	1403.1	1383.8	1388.1
82.5°	1206.0	1224.2	1232.8	1224.2	1216.7	1200.6	1187.8	1187.8
85°	1021.8	1037.8	1045.3	1040.0	1028.2	1014.3	1002.5	1002.5
87.5°	861.1	879.3	893.3	893.3	887.9	877.2	870.8	867.5
90°	580.5	594.4	606.2	604.1	590.1	590.1	573.0	580.5
92.5°	471.3	482.0	486.3	483.0	476.6	467.0	457.3	457.3
95°	383.4	392.0	398.4	398.4	394.1	387.7	383.4	380.2
97.5°	290.3	297.8	305.2	305.2	303.1	295.6	291.3	288.1
100°	217.4	221.7	224.9	224.9	222.8	216.4	213.1	211.0
102.5°	166.0	166.0	167.1	167.1	162.8	157.4	154.2	152.1
105°	128.5	127.5	126.4	124.2	120.0	116.7	113.5	110.3
107.5°	110.3	102.8	98.5	95.3	90.0	87.8	83.5	80.3
110°	109.2	100.7	92.1	83.5	76.0	71.8	66.4	63.2



TEST NUMBER: P236479

CATALOG NUMBER: SKB4-LD5-24-N-UNV-L840-CD4-U all blades tilted out 20 degrees

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	120.0	106.0	92.1	81.4	77.1	72.8	68.5	65.3
115°	107.1	105.0	101.7	94.3	87.8	80.3	72.8	68.5
117.5°	117.8	97.5	87.8	83.5	83.5	81.4	78.2	75.0
120°	144.6	121.0	100.7	86.8	79.3	72.8	66.4	63.2
122.5°	168.2	142.4	123.2	111.4	100.7	91.0	82.5	78.2
125°	190.6	163.9	145.7	131.7	121.0	112.5	103.9	98.5
127.5°	188.5	211.0	166.0	152.1	141.4	131.7	124.2	118.9
130°	202.4	174.6	177.8	201.4	166.0	153.2	144.6	140.3
132.5°	247.4	222.8	181.0	164.9	158.5	162.8	162.8	163.9
135°	243.1	238.8	234.6	218.5	184.2	168.2	156.4	151.0
137.5°	226.0	231.3	232.4	230.3	228.1	224.9	218.5	212.1
140°	203.5	211.0	216.4	220.6	222.8	219.6	215.3	212.1
142.5°	182.1	189.6	194.9	200.3	203.5	204.6	202.4	200.3
145°	186.4	166.0	174.6	178.9	182.1	182.1	183.1	179.9
147.5°	203.5	204.6	172.4	153.2	160.7	161.7	159.6	158.5
150°	176.7	186.4	201.4	204.6	197.1	171.4	157.4	151.0
152.5°	194.9	175.7	172.4	174.6	181.0	182.1	183.1	181.0
155°	252.8	222.8	193.9	173.5	163.9	159.6	153.2	149.9
157.5°	271.0	264.5	254.9	237.8	218.5	203.5	188.5	182.1
160°	267.8	272.0	272.0	269.9	264.5	256.0	248.5	243.1
162.5°	257.1	265.6	268.8	271.0	271.0	267.8	261.3	257.1
165°	238.8	249.6	256.0	262.4	266.7	265.6	260.3	254.9
167.5°	185.3	214.2	233.5	245.3	253.8	257.1	253.8	249.6
170°	178.9	175.7	175.7	181.0	186.4	193.9	194.9	197.1
172.5°	205.6	191.7	188.5	188.5	190.6	196.0	198.1	193.9
175°	264.5	254.9	249.6	246.3	246.3	256.0	259.2	252.8
177.5°	283.8	277.4	271.0	267.8	274.2	279.5	286.0	271.0
180°	307.4	307.4	307.4	307.4	307.4	307.4	307.4	307.4

(END OF REPORT)