

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: P236478

Luminaire Tested: **SKB4-LD5-24-N-UNV-L835-CD4-U all blades tilted out 20 degrees**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236478
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-L835-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) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

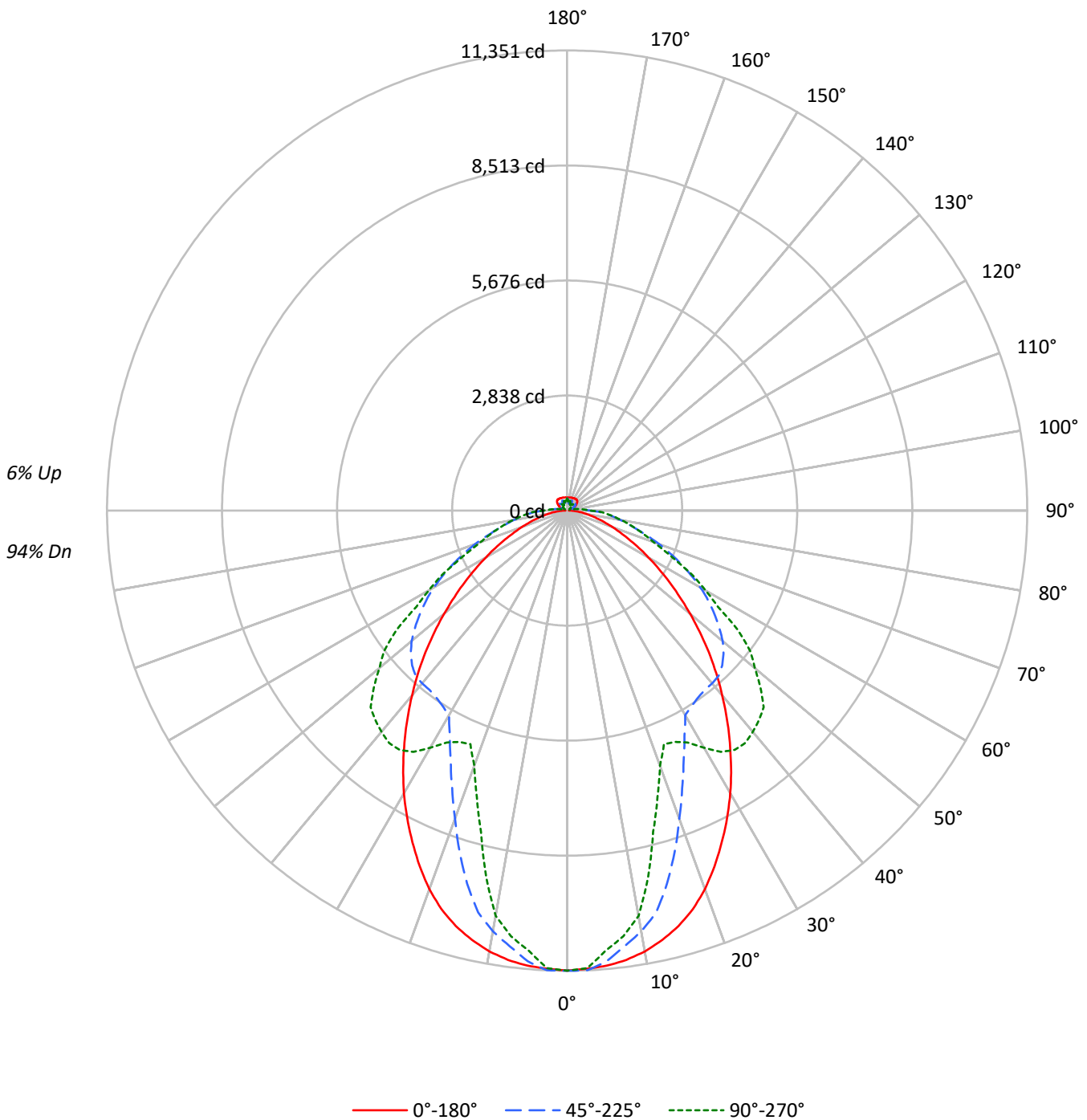
Lumens per Lamp: N/A
Luminaire Lumens: 25841.1 lumens
Efficiency: N/A
Efficacy: 125.3 lumens/watt
Spacing Criteria (0/90/45): 1.08 / 0.71 / 1.1
Luminous Opening: Rectangular w/ Sides (W: 1.88' x L: 4' x H: 0.21')
CIE Type: Direct

Input Watts (W): 206.2
Input Voltage (V): 120
Input Current (A_{in}): 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-L835-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	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°	16288	16288	16288
5°	16160	15918	15551
10°	15944	15053	14507
15°	15548	13728	11837
20°	14890	11857	9829
25°	13956	10217	9476
30°	12949	9053	10518
35°	11825	9125	11713
40°	10689	9502	12211
45°	9529	9836	12525
50°	8316	9827	11921
55°	7178	9519	11104
60°	6107	9083	9478
65°	5148	8415	8276
70°	4363	7688	7285
75°	3642	6882	6956
80°	3082	6630	6899
85°	2547	6874	7129



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1045.4	4.0
10°-20°	2643.1	10.2
20°-30°	3372.9	13.1
30°-40°	4011.7	15.5
40°-50°	4266.3	16.5
50°-60°	3738.5	14.5
60°-70°	2694.6	10.4
70°-80°	1696.8	6.6
80°-90°	947.5	3.7
90°-100°	363.2	1.4
100°-110°	182.4	0.7
110°-120°	171.9	0.7
120°-130°	186.0	0.7
130°-140°	179.7	0.7
140°-150°	139.5	0.5
150°-160°	107.6	0.4
160°-170°	69.7	0.3
170°-180°	24.6	0.1
0°-30°	7061.4	27.3
0°-40°	11073.1	42.9
0°-60°	19077.8	73.8
0°-90°	24416.7	94.5
90°-120°	717.4	2.8
90°-150°	1222.6	4.7
90°-180°	1424.0	5.5
0°-180°	25841.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	11349	11349	11349	11349	11349	
5°	11268	11319	11161	10936	10899	###
15°	10611	10289	9525	8580	8204	2979
25°	9027	8345	6799	6166	6294	4148
35°	6995	6117	5629	6780	7205	4371
45°	4939	4335	5406	6548	6857	3808
55°	3082	3141	4431	5054	5142	2770
65°	1685	2175	3091	3253	3018	1694
75°	784	1443	1776	1835	1775	849
85°	247	840	968	1022	983	252
90°	65	492	561	593	569	44
95°	50	309	356	391	373	44
105°	100	262	142	123	108	108
115°	189	328	155	96	67	188
125°	281	260	222	136	97	251
135°	350	289	232	222	148	267
145°	354	277	192	173	176	222
155°	340	210	270	180	147	158
165°	333	235	202	254	250	95
175°	324	309	272	243	248	31
180°	301	301	301	301	301	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	11348.8	11348.8	11348.8	11348.8	11348.8	11348.8	11348.8	11348.8	11348.8	11348.8	11348.8
2.5°	11311.0	11355.1	11382.4	11418.1	11401.3	11355.1	11359.3	11383.4	11344.6	11350.9	11312.0
5°	11267.9	11313.1	11336.2	11367.7	11347.7	11290.0	11271.1	11263.7	11187.1	11160.8	11067.4
7.5°	11179.7	11223.8	11241.7	11263.7	11207.0	11101.0	11032.7	10977.1	10878.4	10838.5	10753.4
10°	11041.1	11080.0	11086.3	11068.4	10967.6	10833.2	10747.1	10692.5	10589.6	10539.2	10435.3
12.5°	10847.9	10878.4	10857.4	10815.4	10691.5	10548.7	10463.6	10363.9	10235.7	10152.8	9991.1
15°	10610.6	10623.2	10569.7	10515.1	10374.4	10203.2	10077.2	9922.8	9724.4	9524.9	9268.7
17.5°	10310.3	10310.3	10237.8	10169.6	9991.1	9763.2	9579.5	9341.1	9076.5	8824.5	8493.7
20°	9934.4	9934.4	9850.4	9766.4	9527.0	9255.0	9021.9	8730.0	8399.2	8089.5	7750.3
22.5°	9502.8	9516.5	9428.3	9301.2	9026.1	8723.7	8468.5	8085.3	7718.8	7413.3	7088.8
25°	9027.2	9036.6	8946.3	8803.5	8511.6	8178.7	7849.0	7445.8	7085.6	6799.0	6507.1
27.5°	8548.3	8557.8	8459.1	8290.0	7975.0	7607.5	7249.4	6847.3	6531.2	6264.5	6001.0
30°	8048.5	8050.6	7928.8	7762.9	7425.9	7017.4	6676.1	6324.4	6027.2	5826.6	5879.2
32.5°	7526.7	7530.9	7417.5	7226.3	6866.2	6455.6	6158.5	5844.5	5619.8	5718.5	5838.2
35°	6995.3	6993.2	6891.4	6683.5	6301.3	5932.7	5692.2	5408.7	5483.3	5629.2	5831.9
37.5°	6471.4	6466.1	6364.3	6142.7	5766.8	5460.2	5231.3	5207.1	5347.8	5573.6	5900.2
40°	5954.8	5954.8	5837.1	5604.0	5267.0	5031.8	4889.0	5032.8	5222.9	5563.1	5936.9
42.5°	5444.4	5435.0	5315.3	5082.2	4812.3	4608.6	4675.8	4851.2	5134.7	5530.5	5868.6
45°	4939.4	4921.5	4805.0	4595.0	4397.5	4272.6	4446.9	4683.2	5034.9	5405.6	5731.1
47.5°	4437.5	4424.9	4314.6	4145.5	4000.6	4022.7	4205.4	4520.4	4876.4	5231.3	5541.0
50°	3955.5	3947.1	3848.4	3736.0	3632.1	3749.7	3989.1	4338.7	4672.7	5006.6	5283.8
52.5°	3505.0	3495.6	3414.7	3357.0	3333.9	3475.6	3770.7	4108.8	4425.9	4728.3	4996.1
55°	3081.9	3071.4	3015.7	2998.9	3059.8	3222.6	3546.0	3861.0	4150.8	4431.2	4667.4
57.5°	2687.0	2680.7	2652.4	2660.8	2779.4	2983.2	3298.2	3596.4	3858.9	4124.5	4323.0
60°	2319.5	2320.6	2321.6	2371.0	2516.9	2747.9	3047.2	3318.1	3567.0	3796.9	3945.0
62.5°	2000.3	1989.8	2016.1	2117.9	2277.5	2515.9	2791.0	3042.0	3256.2	3444.1	3553.3
65°	1685.3	1702.1	1736.8	1880.6	2060.2	2289.1	2547.4	2761.6	2941.2	3091.3	3175.3
67.5°	1416.5	1438.5	1485.8	1665.4	1863.8	2081.2	2306.9	2481.2	2630.3	2741.6	2808.8
70°	1188.6	1207.5	1275.8	1477.4	1687.4	1885.9	2068.6	2212.4	2330.0	2413.0	2451.8
72.5°	976.5	1005.9	1112.0	1318.8	1535.2	1695.8	1841.8	1961.5	2050.7	2072.8	2107.4
75°	784.4	825.3	965.0	1186.5	1374.5	1512.1	1634.9	1713.7	1756.7	1775.6	1815.5
77.5°	624.8	666.8	840.0	1067.9	1225.4	1341.9	1430.1	1475.3	1516.3	1539.4	1576.1
80°	483.0	530.3	738.2	936.6	1083.6	1172.9	1238.0	1277.9	1306.2	1327.2	1362.9
82.5°	363.3	426.3	638.4	818.0	940.8	1028.0	1071.0	1100.4	1118.3	1142.4	1171.8
85°	246.8	342.3	532.4	694.1	804.3	874.7	905.1	926.1	945.0	968.1	993.3
87.5°	152.3	262.5	436.8	567.0	656.3	714.0	736.1	749.7	772.8	799.1	827.4
90°	65.1	189.0	319.2	419.0	477.8	506.1	528.2	530.3	550.2	560.7	587.0
92.5°	38.9	129.2	231.0	320.3	379.1	410.6	419.0	424.2	433.7	444.2	456.8
95°	50.4	102.9	179.6	244.7	295.1	323.4	332.9	342.3	347.6	356.0	367.5
97.5°	57.8	108.2	178.5	217.4	246.8	266.7	269.9	272.0	270.9	273.0	280.4
100°	69.3	121.8	203.7	228.9	239.4	233.1	226.8	221.6	215.3	211.1	212.1
102.5°	86.1	133.4	220.5	261.5	253.1	236.3	207.9	192.2	176.4	167.0	163.8
105°	99.8	139.7	232.1	295.1	279.3	244.7	216.3	186.9	161.7	141.8	131.3
107.5°	115.5	143.9	231.0	302.4	325.5	267.8	219.5	193.2	164.9	137.6	120.8
110°	146.0	155.4	228.9	296.1	336.0	301.4	245.7	194.3	162.8	144.9	123.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	168.0	158.6	234.2	284.6	333.9	325.5	277.2	223.7	171.2	135.5	127.1
115°	189.0	164.9	239.4	269.9	321.3	335.0	306.6	254.1	200.6	155.4	119.7
117.5°	213.2	175.4	246.8	257.3	300.3	330.8	306.6	293.0	230.0	182.7	146.0
120°	236.3	188.0	251.0	269.9	286.7	314.0	320.3	277.2	270.9	209.0	171.2
122.5°	259.4	201.6	253.1	294.0	269.9	288.8	309.8	302.4	247.8	246.8	194.3
125°	281.4	216.3	252.0	306.6	256.2	263.6	288.8	298.2	281.4	221.6	223.7
127.5°	303.5	231.0	251.0	308.7	269.9	261.5	263.6	283.5	281.4	262.5	203.7
130°	323.4	245.7	239.4	307.7	300.3	242.6	240.5	258.3	268.8	264.6	252.0
132.5°	337.1	261.5	232.1	302.4	317.1	240.5	244.7	232.1	247.8	253.1	249.9
135°	349.7	276.2	226.8	293.0	315.0	262.5	221.6	227.9	221.6	232.1	237.3
137.5°	356.0	291.9	224.7	281.4	308.7	294.0	218.4	227.9	198.5	207.9	216.3
140°	358.1	302.4	224.7	264.6	299.3	300.3	245.7	202.7	220.5	183.8	194.3
142.5°	357.0	309.8	226.8	238.4	284.6	294.0	278.3	211.1	197.4	213.2	171.2
145°	353.9	314.0	227.9	214.2	267.8	285.6	285.6	248.9	195.3	192.2	207.9
147.5°	350.7	316.1	234.2	203.7	251.0	274.1	281.4	275.1	231.0	186.9	181.7
150°	348.6	318.2	251.0	204.8	226.8	260.4	274.1	276.2	266.7	225.8	184.8
152.5°	343.4	320.3	267.8	211.1	201.6	245.7	263.6	270.9	273.0	263.6	234.2
155°	340.2	322.4	280.4	217.4	196.4	222.6	248.9	261.5	267.8	269.9	265.7
157.5°	340.2	325.5	287.7	235.2	201.6	191.1	233.1	246.8	257.3	263.6	266.7
160°	338.1	327.6	293.0	257.3	207.9	192.2	194.3	231.0	242.6	252.0	258.3
162.5°	335.0	328.7	298.2	275.1	230.0	198.5	186.9	190.1	224.7	236.3	244.7
165°	332.9	328.7	307.7	285.6	256.2	213.2	196.4	184.8	179.6	201.6	226.8
167.5°	330.8	327.6	314.0	293.0	279.3	247.8	214.2	195.3	185.9	176.4	173.3
170°	327.6	325.5	319.2	305.6	287.7	277.2	255.2	228.9	202.7	188.0	179.6
172.5°	325.5	324.5	321.3	315.0	303.5	287.7	282.5	273.0	252.0	235.2	215.3
175°	324.5	323.4	322.4	320.3	314.0	304.5	299.3	288.8	278.3	272.0	265.7
177.5°	323.4	322.4	322.4	321.3	319.2	312.9	311.9	305.6	299.3	293.0	285.6
180°	301.4	301.4	301.4	301.4	301.4	301.4	301.4	301.4	301.4	301.4	301.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	11348.8	11348.8	11348.8	11348.8	11348.8	11348.8	11348.8	11348.8
2.5°	11295.2	11318.3	11303.6	11273.2	11287.9	11320.4	11313.1	11298.4
5°	11013.8	11006.5	10956.1	10916.2	10909.9	10924.6	10917.2	10899.4
7.5°	10711.4	10707.2	10675.7	10615.9	10621.1	10620.1	10606.4	10589.6
10°	10374.4	10342.9	10287.2	10232.6	10205.3	10199.0	10173.8	10149.6
12.5°	9880.8	9766.4	9627.8	9485.0	9422.0	9327.5	9276.0	9241.4
15°	9073.4	8859.2	8672.2	8488.5	8395.0	8298.4	8239.6	8203.9
17.5°	8249.1	8051.7	7825.9	7660.0	7577.1	7495.2	7445.8	7409.1
20°	7516.2	7329.2	7136.0	6981.7	6888.2	6794.8	6738.1	6696.1
22.5°	6869.3	6684.5	6479.8	6341.2	6277.1	6254.0	6246.7	6236.2
25°	6288.7	6154.3	6144.8	6186.8	6241.4	6277.1	6293.9	6293.9
27.5°	6009.4	6090.2	6163.7	6248.8	6345.4	6414.7	6447.2	6449.3
30°	5990.5	6120.7	6248.8	6406.3	6566.9	6689.8	6740.2	6753.8
32.5°	6011.5	6240.4	6464.0	6680.3	6870.4	6997.4	7049.9	7055.2
35°	6130.1	6428.3	6681.4	6878.8	7040.5	7141.3	7193.8	7205.3
37.5°	6248.8	6531.2	6740.2	6936.5	7085.6	7171.7	7210.6	7221.1
40°	6253.0	6518.6	6724.4	6902.9	7032.1	7090.9	7118.2	7125.5
42.5°	6175.3	6433.6	6627.8	6776.9	6895.6	6968.0	6997.4	7005.8
45°	6030.4	6269.8	6469.3	6625.7	6748.6	6816.8	6850.4	6856.7
47.5°	5803.5	6054.5	6260.3	6404.2	6480.8	6509.2	6476.6	6466.1
50°	5535.8	5764.7	5927.5	6029.3	6060.8	6057.7	6041.9	6046.1
52.5°	5221.8	5406.6	5525.3	5594.6	5626.1	5676.5	5698.5	5694.3
55°	4862.7	4994.0	5041.2	5066.4	5086.4	5133.6	5149.4	5142.0
57.5°	4461.6	4539.3	4555.1	4564.5	4540.4	4499.4	4453.2	4410.2
60°	4045.8	4090.9	4102.5	4095.1	4065.7	4015.3	3957.6	3937.6
62.5°	3625.8	3664.6	3677.2	3653.1	3609.0	3568.0	3525.0	3525.0
65°	3226.8	3274.0	3271.9	3234.1	3144.9	3084.0	3028.3	3017.8
67.5°	2850.8	2860.3	2825.6	2772.1	2696.5	2654.5	2611.4	2600.9
70°	2449.7	2451.8	2422.4	2377.3	2325.8	2300.6	2279.6	2266.0
72.5°	2114.8	2117.9	2099.0	2070.7	2051.8	2028.7	2015.0	2019.2
75°	1831.3	1844.9	1839.7	1830.2	1814.5	1795.6	1783.0	1774.6
77.5°	1592.9	1609.7	1612.9	1610.8	1599.2	1583.5	1570.9	1571.9
80°	1381.8	1399.7	1402.8	1402.8	1391.3	1375.5	1356.6	1360.8
82.5°	1182.3	1200.2	1208.6	1200.2	1192.8	1177.1	1164.5	1164.5
85°	1001.7	1017.5	1024.8	1019.6	1008.0	994.4	982.8	982.8
87.5°	844.2	862.1	875.7	875.7	870.5	860.0	853.7	850.5
90°	569.1	582.8	594.3	592.2	578.6	578.6	561.8	569.1
92.5°	462.0	472.5	476.7	473.6	467.3	457.8	448.4	448.4
95°	375.9	384.3	390.6	390.6	386.4	380.1	375.9	372.8
97.5°	284.6	291.9	299.3	299.3	297.2	289.8	285.6	282.5
100°	213.2	217.4	220.5	220.5	218.4	212.1	209.0	206.9
102.5°	162.8	162.8	163.8	163.8	159.6	154.4	151.2	149.1
105°	126.0	125.0	123.9	121.8	117.6	114.5	111.3	108.2
107.5°	108.2	100.8	96.6	93.5	88.2	86.1	81.9	78.8
110°	107.1	98.7	90.3	81.9	74.6	70.4	65.1	62.0



TEST NUMBER: P236478

CATALOG NUMBER: SKB4-LD5-24-N-UNV-L835-CD4-U all blades tilted out 20 degrees

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	117.6	104.0	90.3	79.8	75.6	71.4	67.2	64.1
115°	105.0	102.9	99.8	92.4	86.1	78.8	71.4	67.2
117.5°	115.5	95.6	86.1	81.9	81.9	79.8	76.7	73.5
120°	141.8	118.7	98.7	85.1	77.7	71.4	65.1	62.0
122.5°	164.9	139.7	120.8	109.2	98.7	89.3	80.9	76.7
125°	186.9	160.7	142.8	129.2	118.7	110.3	101.9	96.6
127.5°	184.8	206.9	162.8	149.1	138.6	129.2	121.8	116.6
130°	198.5	171.2	174.3	197.4	162.8	150.2	141.8	137.6
132.5°	242.6	218.4	177.5	161.7	155.4	159.6	159.6	160.7
135°	238.4	234.2	230.0	214.2	180.6	164.9	153.3	148.1
137.5°	221.6	226.8	227.9	225.8	223.7	220.5	214.2	207.9
140°	199.5	206.9	212.1	216.3	218.4	215.3	211.1	207.9
142.5°	178.5	185.9	191.1	196.4	199.5	200.6	198.5	196.4
145°	182.7	162.8	171.2	175.4	178.5	178.5	179.6	176.4
147.5°	199.5	200.6	169.1	150.2	157.5	158.6	156.5	155.4
150°	173.3	182.7	197.4	200.6	193.2	168.0	154.4	148.1
152.5°	191.1	172.2	169.1	171.2	177.5	178.5	179.6	177.5
155°	247.8	218.4	190.1	170.1	160.7	156.5	150.2	147.0
157.5°	265.7	259.4	249.9	233.1	214.2	199.5	184.8	178.5
160°	262.5	266.7	266.7	264.6	259.4	251.0	243.6	238.4
162.5°	252.0	260.4	263.6	265.7	265.7	262.5	256.2	252.0
165°	234.2	244.7	251.0	257.3	261.5	260.4	255.2	249.9
167.5°	181.7	210.0	228.9	240.5	248.9	252.0	248.9	244.7
170°	175.4	172.2	172.2	177.5	182.7	190.1	191.1	193.2
172.5°	201.6	188.0	184.8	184.8	186.9	192.2	194.3	190.1
175°	259.4	249.9	244.7	241.5	241.5	251.0	254.1	247.8
177.5°	278.3	272.0	265.7	262.5	268.8	274.1	280.4	265.7
180°	301.4	301.4	301.4	301.4	301.4	301.4	301.4	301.4

(END OF REPORT)