

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: P236539

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236539
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-LD5-24-W-UNV-L840-CD4-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

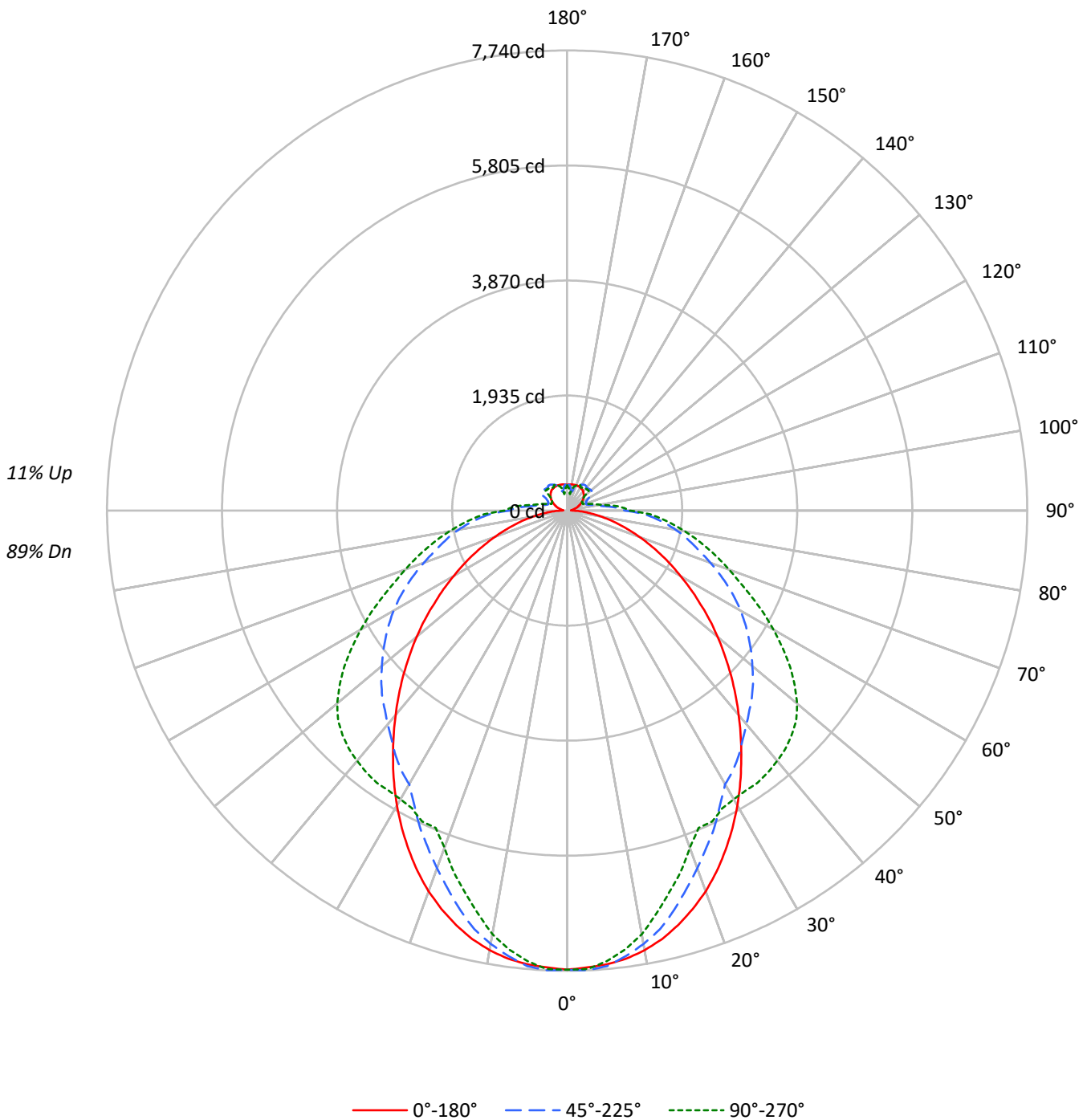
Lumens per Lamp: N/A
Luminaire Lumens: 24517.0 lumens
Efficiency: N/A
Efficacy: 118.9 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 1.07 / 1.26
Luminous Opening: Rectangular w/ Sides (W: 1.88' x L: 4' x H: 0.21')
CIE Type: Semi-Direct

Input Watts (W): 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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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	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°	11083	11083	11083
5°	10988	10968	10857
10°	10842	10571	10344
15°	10575	10023	9589
20°	10213	9381	8856
25°	9741	8818	8687
30°	9213	8258	8728
35°	8634	8156	9085
40°	8060	8015	9420
45°	7499	8007	9757
50°	6946	7984	9956
55°	6362	8009	9881
60°	5805	8065	9647
65°	5280	8097	9368
70°	4743	8173	9309
75°	4238	8483	9570
80°	3722	9270	10200
85°	3155	10545	11565



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	723.4	3.0
10°-20°	1953.3	8.0
20°-30°	2743.8	11.2
30°-40°	3254.9	13.3
40°-50°	3485.3	14.2
50°-60°	3310.2	13.5
60°-70°	2762.1	11.3
70°-80°	2089.0	8.5
80°-90°	1380.0	5.6
90°-100°	686.6	2.8
100°-110°	396.3	1.6
110°-120°	345.1	1.4
120°-130°	371.5	1.5
130°-140°	365.5	1.5
140°-150°	291.3	1.2
150°-160°	207.8	0.8
160°-170°	113.1	0.5
170°-180°	38.0	0.2
0°-30°	5420.4	22.1
0°-40°	8675.3	35.4
0°-60°	15470.7	63.1
0°-90°	21702.0	88.5
90°-120°	1428.1	5.8
90°-150°	2456.2	10.0
90°-180°	2815.0	11.5
0°-180°	24517.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7722	7722	7722	7722	7722	
5°	7662	7721	7690	7628	7610	727
15°	7217	7181	6955	6714	6646	2030
25°	6300	6178	5868	5682	5770	2897
35°	5108	5008	5032	5379	5589	3194
45°	3887	3982	4400	5079	5342	3000
55°	2732	3044	3728	4387	4576	2451
65°	1728	2242	2974	3354	3416	1718
75°	913	1630	2189	2407	2442	972
85°	306	1073	1485	1574	1594	309
90°	90	683	968	1029	1051	62
95°	84	464	728	827	851	71
105°	141	347	374	422	431	152
115°	236	464	353	307	286	235
125°	327	489	526	360	320	291
135°	394	468	515	511	491	303
145°	437	427	523	483	465	273
155°	452	340	476	494	477	209
165°	450	394	342	411	406	128
175°	442	439	438	409	373	42
180°	424	424	424	424	424	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	7722.3	7722.3	7722.3	7722.3	7722.3	7722.3	7722.3	7722.3	7722.3	7722.3	7722.3
2.5°	7692.4	7712.9	7759.9	7766.7	7762.4	7741.9	7730.8	7760.7	7746.2	7740.2	7726.6
5°	7661.7	7683.0	7731.7	7737.7	7732.6	7710.3	7698.4	7724.9	7704.4	7689.9	7664.2
7.5°	7603.6	7619.0	7666.8	7675.3	7662.5	7633.5	7610.4	7621.5	7584.8	7560.1	7531.0
10°	7508.0	7523.3	7570.3	7574.6	7549.8	7507.1	7470.4	7467.0	7434.5	7401.2	7361.1
12.5°	7381.6	7393.5	7438.8	7436.2	7394.4	7347.4	7309.0	7296.2	7252.6	7212.5	7161.3
15°	7216.8	7229.6	7269.7	7256.0	7207.4	7154.4	7112.6	7095.5	7028.0	6954.6	6878.6
17.5°	7027.2	7042.6	7068.2	7047.7	6999.0	6938.4	6889.7	6841.9	6749.7	6671.1	6596.8
20°	6813.7	6812.8	6837.6	6813.7	6761.6	6697.6	6622.4	6553.2	6464.4	6400.4	6326.9
22.5°	6570.3	6578.0	6584.0	6566.9	6510.5	6420.9	6333.8	6270.6	6190.3	6128.8	6057.9
25°	6300.5	6309.0	6309.9	6287.7	6229.6	6127.1	6048.6	5994.8	5918.8	5868.4	5772.7
27.5°	6021.2	6018.7	6033.2	6013.5	5928.1	5828.2	5769.3	5717.2	5657.4	5572.9	5495.2
30°	5726.6	5711.2	5735.2	5710.4	5619.9	5539.6	5482.4	5455.9	5371.4	5315.0	5366.2
32.5°	5419.2	5403.8	5430.3	5398.7	5315.0	5264.6	5222.8	5182.6	5124.6	5187.8	5245.0
35°	5107.5	5092.1	5120.3	5086.1	5022.1	4993.9	4957.2	4925.6	4973.4	5031.5	5082.7
37.5°	4796.7	4782.1	4812.0	4777.9	4742.0	4741.2	4695.9	4746.3	4795.8	4850.5	4946.1
40°	4490.1	4478.1	4508.0	4484.1	4473.9	4484.1	4473.9	4561.8	4596.8	4692.5	4815.4
42.5°	4186.1	4183.5	4208.3	4199.7	4221.1	4233.9	4280.0	4352.6	4414.9	4540.5	4699.3
45°	3887.2	3887.2	3912.8	3926.5	3963.2	4000.8	4067.4	4140.0	4240.7	4400.4	4560.1
47.5°	3591.7	3595.1	3625.0	3664.3	3708.7	3782.2	3853.0	3944.4	4079.3	4240.7	4399.6
50°	3303.9	3307.4	3346.6	3407.3	3462.8	3555.9	3631.0	3749.7	3905.1	4067.4	4245.9
52.5°	3021.3	3026.4	3080.2	3146.0	3225.4	3323.6	3425.2	3574.7	3724.1	3900.9	4084.5
55°	2731.8	2752.3	2817.2	2889.8	2993.1	3094.7	3223.7	3389.3	3548.2	3728.4	3901.7
57.5°	2464.5	2485.9	2557.6	2642.1	2764.2	2881.2	3044.3	3209.2	3377.4	3551.6	3718.1
60°	2204.9	2228.0	2304.0	2403.9	2543.9	2688.2	2865.0	3042.6	3203.2	3371.4	3514.0
62.5°	1967.5	1981.2	2052.9	2176.7	2333.9	2506.4	2698.5	2874.4	3027.3	3176.7	3307.4
65°	1728.4	1744.6	1814.7	1964.1	2141.7	2341.5	2541.4	2707.0	2843.7	2974.3	3088.8
67.5°	1503.8	1524.3	1596.0	1771.1	1971.8	2188.7	2378.3	2530.3	2653.2	2768.5	2866.7
70°	1292.0	1310.8	1397.1	1600.3	1823.2	2035.8	2207.5	2350.1	2459.4	2565.3	2649.8
72.5°	1093.9	1115.3	1222.9	1450.9	1686.6	1883.0	2033.3	2164.8	2271.5	2362.0	2444.9
75°	912.9	933.4	1073.4	1325.3	1542.2	1718.2	1862.5	1989.7	2092.2	2188.7	2266.4
77.5°	742.1	774.5	952.2	1202.4	1392.8	1558.5	1697.7	1831.7	1941.9	2027.3	2085.4
80°	583.3	637.9	847.1	1073.4	1247.6	1413.3	1561.9	1695.1	1786.5	1855.6	1900.9
82.5°	436.4	520.1	740.4	941.9	1114.4	1289.5	1426.1	1542.2	1620.0	1675.5	1709.6
85°	305.7	413.3	628.5	824.1	994.0	1152.0	1272.4	1372.3	1438.1	1485.0	1511.5
87.5°	203.2	317.7	524.3	698.5	846.3	988.0	1093.1	1183.6	1242.5	1286.9	1312.5
90°	89.7	239.1	401.4	521.8	632.8	732.7	818.1	893.2	936.8	968.4	977.8
92.5°	68.3	179.3	316.0	431.2	534.6	635.3	725.9	800.2	850.5	882.1	893.2
95°	84.5	148.6	244.2	329.6	421.0	506.4	577.3	639.6	690.0	728.4	750.6
97.5°	89.7	153.7	232.3	287.8	346.7	421.9	485.0	534.6	565.3	586.7	595.2
100°	102.5	165.7	255.3	284.4	321.9	357.8	410.8	457.7	485.9	503.8	512.4
102.5°	119.6	175.9	276.7	309.1	322.8	348.4	362.1	388.5	415.9	435.5	444.9
105°	140.9	185.3	296.3	354.4	345.0	349.3	360.4	361.2	360.4	374.0	382.6
107.5°	169.1	192.1	308.3	371.5	400.5	369.8	362.9	362.1	354.4	338.2	334.7
110°	193.8	195.6	302.3	382.6	426.1	409.0	380.9	366.3	353.5	342.4	327.9



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CATALOG NUMBER: SKB4-LD5-24-W-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°	214.3	203.2	303.2	397.9	439.8	469.7	415.0	384.3	359.5	340.7	327.9
115°	236.5	209.2	307.4	403.1	447.5	480.8	497.0	418.4	380.0	352.7	332.2
117.5°	260.5	218.6	314.3	400.5	458.6	491.9	507.2	508.1	415.0	375.7	347.6
120°	282.7	228.9	316.8	400.5	479.1	495.3	514.1	523.5	507.2	412.5	372.3
122.5°	305.7	243.4	320.2	401.4	468.0	500.4	520.9	527.7	527.7	511.5	417.6
125°	327.1	261.3	318.5	402.2	468.0	509.8	518.3	531.2	529.5	526.0	521.8
127.5°	346.7	282.7	314.3	401.4	463.7	508.1	517.5	527.7	531.2	526.9	522.6
130°	362.9	301.4	298.0	396.2	456.0	504.7	519.2	523.5	529.5	527.7	520.9
132.5°	377.4	319.4	286.1	392.0	450.9	500.4	522.6	522.6	522.6	524.3	519.2
135°	393.7	348.4	289.5	385.1	445.8	491.0	519.2	530.3	519.2	514.9	514.9
137.5°	407.3	378.3	294.6	375.7	438.9	482.5	514.1	528.6	512.4	511.5	507.2
140°	419.3	404.8	305.7	362.9	430.4	474.8	502.1	523.5	527.7	503.8	503.8
142.5°	431.2	427.8	323.6	335.6	418.4	463.7	491.0	514.1	525.2	524.3	494.4
145°	437.2	440.6	343.3	315.1	403.1	450.9	479.9	501.3	517.5	522.6	519.2
147.5°	441.5	445.8	357.8	313.4	383.4	435.5	468.8	490.2	505.5	516.6	517.5
150°	445.8	448.3	379.2	321.9	350.1	419.3	454.3	478.2	493.6	504.7	509.8
152.5°	450.0	450.9	409.9	339.9	323.6	397.9	436.4	462.8	479.9	491.9	496.1
155°	451.7	452.6	434.7	362.1	321.9	358.7	414.2	443.2	462.8	476.5	481.6
157.5°	453.4	452.6	451.7	379.2	337.3	325.4	384.3	420.1	442.3	458.6	466.3
160°	452.6	451.7	457.7	410.8	359.5	325.4	330.5	388.5	415.0	434.7	444.9
162.5°	451.7	450.9	454.3	438.9	379.2	345.9	322.8	327.9	375.7	404.8	417.6
165°	450.0	449.2	450.9	454.3	417.6	369.8	343.3	324.5	320.2	341.6	374.9
167.5°	448.3	447.5	448.3	451.7	445.8	410.8	371.5	351.8	332.2	316.8	313.4
170°	446.6	445.8	445.8	445.8	449.2	444.1	420.1	388.5	362.9	351.0	331.3
172.5°	444.9	444.1	444.1	444.1	443.2	443.2	447.5	439.8	422.7	403.1	379.2
175°	442.3	441.5	441.5	441.5	439.8	438.1	438.1	438.1	436.4	438.1	435.5
177.5°	440.6	439.8	439.8	438.9	437.2	435.5	435.5	434.7	431.2	429.5	425.3
180°	423.6	423.6	423.6	423.6	423.6	423.6	423.6	423.6	423.6	423.6	423.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	7722.3	7722.3	7722.3	7722.3	7722.3	7722.3	7722.3	7722.3
2.5°	7698.4	7711.2	7729.1	7706.9	7710.3	7728.3	7723.2	7718.9
5°	7630.9	7636.1	7642.0	7613.0	7611.3	7626.7	7611.3	7609.6
7.5°	7492.6	7490.0	7495.2	7456.7	7454.2	7467.0	7455.0	7448.2
10°	7321.8	7315.0	7310.7	7269.7	7256.0	7259.5	7247.5	7237.3
12.5°	7094.6	7060.5	7035.7	6989.6	6970.0	6968.3	6946.1	6939.2
15°	6806.0	6770.1	6738.5	6689.0	6676.2	6680.5	6662.5	6645.5
17.5°	6527.6	6491.8	6461.0	6408.1	6397.8	6403.8	6369.6	6363.7
20°	6260.3	6219.3	6192.9	6134.0	6109.2	6103.2	6047.7	6033.2
22.5°	6002.4	5940.1	5865.0	5807.7	5797.5	5806.0	5798.3	5775.3
25°	5680.5	5646.3	5664.3	5699.3	5750.5	5785.5	5787.2	5770.2
27.5°	5504.6	5572.9	5622.4	5628.4	5647.2	5669.4	5670.3	5648.9
30°	5429.4	5452.5	5477.3	5519.1	5574.6	5612.2	5621.6	5604.5
32.5°	5270.6	5330.4	5397.0	5461.0	5530.2	5580.6	5596.8	5584.0
35°	5155.3	5241.6	5334.6	5424.3	5508.9	5569.5	5596.0	5589.1
37.5°	5046.9	5166.4	5283.4	5391.0	5476.4	5528.5	5549.8	5549.0
40°	4953.8	5089.6	5205.7	5316.7	5406.4	5467.9	5492.6	5496.9
42.5°	4844.5	4975.1	5113.5	5241.6	5338.9	5403.8	5430.3	5436.3
45°	4704.4	4856.4	5011.9	5145.9	5233.9	5299.6	5332.1	5341.5
47.5°	4565.2	4728.3	4885.5	5017.0	5101.5	5175.0	5210.8	5224.5
50°	4412.4	4575.5	4736.9	4859.9	4939.3	5011.0	5040.9	5049.4
52.5°	4243.3	4409.8	4559.3	4671.1	4730.1	4795.0	4819.7	4822.3
55°	4066.5	4216.0	4341.5	4432.0	4490.1	4553.3	4572.1	4575.5
57.5°	3860.7	3990.5	4099.8	4183.5	4227.1	4280.0	4292.0	4296.2
60°	3641.3	3753.1	3844.5	3913.7	3949.5	3991.4	4001.6	4007.6
62.5°	3416.7	3499.5	3584.9	3646.4	3669.4	3707.0	3714.7	3718.1
65°	3176.7	3250.1	3330.4	3377.4	3393.6	3416.7	3415.0	3415.8
67.5°	2941.0	3006.8	3065.7	3114.4	3129.7	3138.3	3144.3	3138.3
70°	2708.7	2763.4	2824.0	2857.3	2885.5	2888.1	2898.3	2895.8
72.5°	2505.5	2558.4	2607.1	2636.2	2660.9	2660.9	2673.7	2666.0
75°	2318.5	2358.6	2396.2	2418.4	2439.7	2435.5	2448.3	2441.5
77.5°	2122.9	2153.7	2181.9	2206.6	2225.4	2232.2	2233.1	2225.4
80°	1929.1	1953.0	1974.3	1995.7	2011.9	2007.6	2018.7	2011.9
82.5°	1728.4	1746.3	1766.0	1784.8	1799.3	1802.7	1803.6	1796.7
85°	1526.9	1544.8	1567.9	1580.7	1594.3	1598.6	1599.5	1594.3
87.5°	1327.0	1345.0	1368.0	1380.8	1395.4	1398.8	1399.6	1395.4
90°	991.4	1009.4	1019.6	1037.6	1042.7	1050.4	1040.1	1051.2
92.5°	908.6	924.0	936.8	950.5	957.3	961.6	957.3	962.4
95°	778.0	801.9	818.1	835.2	843.7	850.5	849.7	851.4
97.5°	608.9	629.4	649.9	672.1	682.3	691.7	690.8	691.7
100°	525.2	537.1	546.5	556.8	561.0	561.9	561.0	561.9
102.5°	456.9	468.8	479.1	488.5	491.0	494.4	493.6	491.9
105°	395.4	407.3	417.6	426.1	429.5	433.0	433.0	431.2
107.5°	344.1	352.7	362.1	369.8	374.0	375.7	377.4	375.7
110°	316.0	314.3	318.5	323.6	326.2	327.9	326.2	325.4



TEST NUMBER: P236539

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	321.1	313.4	302.3	294.6	293.8	293.8	290.3	288.6
115°	319.4	313.4	308.3	304.9	300.6	296.3	290.3	286.1
117.5°	329.6	316.8	307.4	303.2	299.7	296.3	292.1	288.6
120°	349.3	332.2	318.5	310.0	304.0	298.9	292.9	289.5
122.5°	379.2	356.1	339.0	327.1	319.4	311.7	305.7	301.4
125°	433.8	392.8	368.1	351.8	341.6	332.2	324.5	320.2
127.5°	520.9	482.5	418.4	390.3	374.0	360.4	351.0	345.9
130°	519.2	518.3	515.8	494.4	434.7	411.6	397.1	389.4
132.5°	516.6	517.5	514.9	511.5	508.1	502.1	495.3	492.7
135°	514.9	513.2	511.5	509.8	505.5	500.4	493.6	491.0
137.5°	509.0	509.8	509.0	505.5	501.3	496.1	490.2	487.6
140°	501.3	500.4	501.3	501.3	498.7	492.7	486.8	483.3
142.5°	496.1	493.6	491.0	490.2	489.3	485.0	479.1	477.4
145°	505.5	485.0	484.2	481.6	479.1	473.9	468.0	464.6
147.5°	516.6	512.4	485.0	471.4	470.5	466.3	460.3	456.9
150°	513.2	512.4	507.2	503.0	496.1	481.6	464.6	452.6
152.5°	502.1	507.2	505.5	503.0	497.9	491.9	484.2	480.8
155°	488.5	493.6	494.4	494.4	491.9	487.6	480.8	477.4
157.5°	473.9	479.1	479.9	480.8	478.2	474.8	468.8	466.3
160°	454.3	461.1	462.8	463.7	461.1	458.6	452.6	450.0
162.5°	428.7	438.1	442.3	443.2	442.3	439.8	434.7	432.1
165°	392.8	404.8	409.9	412.5	413.3	411.6	407.3	405.6
167.5°	320.2	341.6	360.4	371.5	372.3	370.6	367.2	366.3
170°	320.2	311.7	303.2	299.7	295.5	289.5	285.2	281.8
172.5°	359.5	351.0	343.3	333.0	321.9	310.8	303.2	299.7
175°	429.5	423.6	413.3	403.9	393.7	384.3	376.6	373.2
177.5°	422.7	421.9	418.4	413.3	408.2	402.2	394.5	390.3
180°	423.6	423.6	423.6	423.6	423.6	423.6	423.6	423.6

(END OF REPORT)