

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: P236562

Luminaire Tested: **SKB4-LD5-24-W-UNV-L835-CD4-U outer 2 blades tilted out 20 degrees**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236562
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24077)
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-L835-CD4-U outer 2 blades tilted out 20 degrees
Description: METALUX SKYBAR LED WAVESTREAM LUMINAIRE
4 BLADES WITH WIDE DISTRIBUTION LENS, OUTER 2 BLADES TILTED OUT 20 DEGREES
Light Source: (952) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

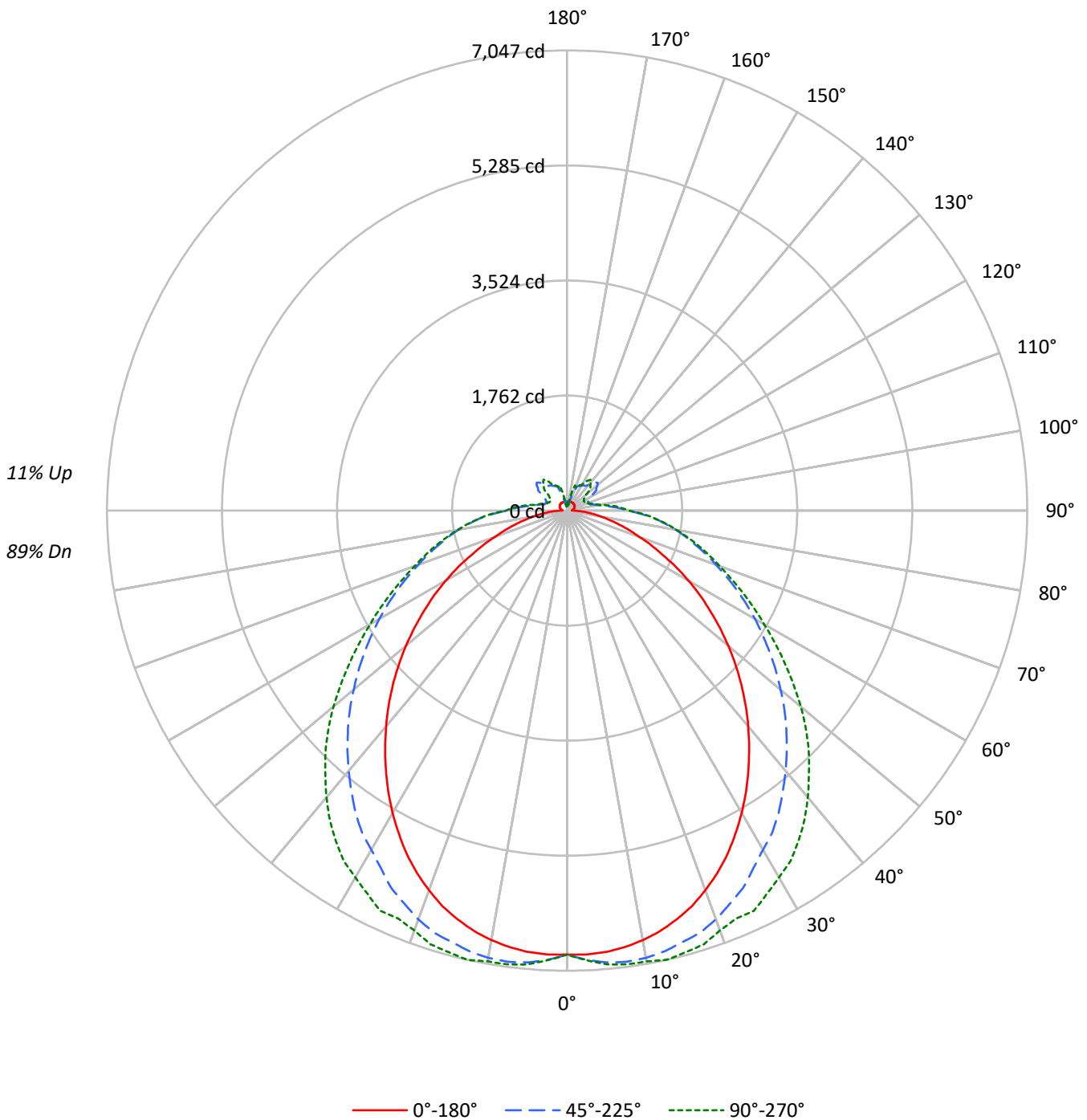
Lumens per Lamp: N/A
Luminaire Lumens: 24096.0 lumens
Efficiency: N/A
Efficacy: 116.9 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 1.4 / 1.41
Luminous Opening: Rectangular w/ Sides (W: 1.88' x L: 4' x H: 0.21')
CIE Type: Semi-Direct

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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CATALOG NUMBER: SKB4-LD5-24-W-UNV-L835-CD4-U outer 2 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	117	117	117	117	113	113	113	113	105	105	105	99	99	99	92	92	92	89
1	105	99	95	90	101	96	92	88	90	86	83	84	81	79	79	77	74	72
2	95	86	79	73	91	83	76	71	78	72	68	73	68	64	68	65	61	59
3	86	75	67	60	83	73	65	59	68	62	56	64	59	54	60	56	52	49
4	79	66	57	51	76	64	56	50	61	53	48	57	51	46	54	49	44	42
5	72	59	50	43	70	58	49	43	54	47	41	51	45	40	48	43	38	36
6	67	53	44	38	64	52	43	37	49	42	36	46	40	35	44	38	34	31
7	62	48	39	33	60	47	39	33	44	37	32	42	36	31	40	34	30	28
8	58	44	35	30	55	43	35	29	41	33	28	39	32	28	37	31	27	25
9	54	40	32	27	52	39	32	26	37	30	26	36	29	25	34	28	24	22
10	50	37	29	24	49	36	29	24	35	28	23	33	27	23	31	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9760	9760	9760
5°	9732	9907	9954
10°	9645	9933	10019
15°	9498	9856	10104
20°	9273	9763	10042
25°	8980	9583	10184
30°	8601	9317	10102
35°	8183	9155	10039
40°	7742	8887	9826
45°	7279	8638	9563
50°	6772	8374	9214
55°	6220	8134	8783
60°	5645	7947	8387
65°	4964	7785	8123
70°	4333	7735	7991
75°	3817	7891	8171
80°	3360	8436	8625
85°	2999	9441	9717



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	660.4	2.7
10°-20°	1924.1	8.0
20°-30°	2919.6	12.1
30°-40°	3498.0	14.5
40°-50°	3579.4	14.9
50°-60°	3220.7	13.4
60°-70°	2592.4	10.8
70°-80°	1916.1	8.0
80°-90°	1245.3	5.2
90°-100°	643.0	2.7
100°-110°	382.5	1.6
110°-120°	336.0	1.4
120°-130°	351.3	1.5
130°-140°	350.9	1.5
140°-150°	259.8	1.1
150°-160°	148.4	0.6
160°-170°	56.5	0.2
170°-180°	11.4	0.0
0°-30°	5504.1	22.8
0°-40°	9002.2	37.4
0°-60°	15802.2	65.6
0°-90°	21556.1	89.5
90°-120°	1361.5	5.7
90°-150°	2323.6	9.6
90°-180°	2540.0	10.5
0°-180°	24096.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6800	6800	6800	6800	6800	
5°	6786	6889	6946	6964	6976	644
15°	6482	6701	6838	6969	7003	1826
25°	5808	6053	6377	6615	6764	2669
35°	4841	5148	5648	6060	6176	3026
45°	3773	4154	4747	5140	5235	2909
55°	2671	3176	3787	4044	4067	2393
65°	1625	2304	2860	2954	2962	1626
75°	822	1633	2036	2079	2085	880
85°	290	1061	1330	1335	1340	287
90°	88	710	911	939	937	61
95°	85	471	677	735	744	69
105°	100	347	364	403	404	109
115°	123	480	354	315	301	123
125°	139	440	543	355	318	124
135°	142	400	604	545	506	110
145°	146	330	467	558	563	91
155°	144	107	418	437	424	67
165°	144	115	110	291	321	41
175°	141	140	146	128	95	13
180°	126	126	126	126	126	



TEST NUMBER: P236562

CATALOG NUMBER: SKB4-LD5-24-W-UNV-L835-CD4-U outer 2 blades tilted out 20 degrees

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	6800.5	6800.5	6800.5	6800.5	6800.5	6800.5	6800.5	6800.5	6800.5	6800.5	6800.5
2.5°	6804.7	6806.3	6843.2	6865.8	6855.7	6858.2	6854.1	6875.8	6898.4	6885.9	6896.8
5°	6786.2	6794.6	6844.0	6878.3	6879.2	6898.4	6906.0	6934.4	6961.2	6946.2	6960.4
7.5°	6744.4	6758.6	6819.7	6868.3	6880.9	6900.1	6904.3	6939.5	6978.0	6970.4	6985.5
10°	6679.1	6701.7	6777.0	6832.3	6839.8	6867.5	6885.9	6921.0	6955.4	6954.5	6970.4
12.5°	6594.5	6619.6	6706.7	6762.8	6775.4	6811.4	6828.9	6868.3	6908.5	6911.0	6930.2
15°	6481.5	6515.0	6608.8	6664.9	6685.8	6715.9	6741.9	6787.9	6827.3	6838.2	6894.2
17.5°	6351.7	6385.2	6479.0	6538.4	6556.0	6596.2	6628.0	6674.1	6747.7	6777.9	6823.1
20°	6186.8	6227.0	6321.6	6383.6	6402.8	6449.7	6484.0	6564.4	6638.1	6660.7	6705.0
22.5°	6007.7	6046.2	6141.6	6208.6	6226.2	6273.1	6337.5	6422.1	6487.4	6515.0	6588.7
25°	5808.4	5841.9	5935.7	6001.0	6021.1	6084.7	6167.6	6248.8	6314.9	6376.9	6428.8
27.5°	5580.7	5616.7	5709.6	5769.1	5799.2	5894.6	5975.0	6053.7	6146.6	6174.3	6251.3
30°	5346.3	5377.3	5469.4	5521.3	5569.8	5672.0	5751.5	5862.8	5926.5	5996.8	6131.6
32.5°	5097.6	5127.8	5216.5	5264.2	5336.2	5444.2	5544.7	5633.4	5728.9	5846.9	5970.8
35°	4840.6	4869.9	4954.5	5002.2	5091.8	5204.0	5317.0	5413.3	5550.6	5647.7	5760.7
37.5°	4578.6	4609.6	4684.9	4739.3	4842.3	4966.2	5077.5	5209.8	5331.2	5425.8	5549.7
40°	4313.2	4336.6	4415.3	4476.4	4592.0	4715.0	4840.6	4982.9	5094.3	5203.1	5343.8
42.5°	4047.0	4067.1	4143.2	4225.3	4341.7	4467.2	4626.3	4732.6	4863.2	4979.6	5114.4
45°	3773.2	3792.5	3868.6	3964.1	4081.3	4227.0	4381.8	4484.0	4623.0	4746.9	4869.1
47.5°	3497.8	3519.5	3596.6	3707.9	3834.3	3990.0	4124.0	4246.2	4403.6	4513.3	4619.6
50°	3221.5	3243.3	3329.5	3451.7	3581.5	3743.1	3874.5	4010.1	4161.7	4266.3	4366.8
52.5°	2946.1	2970.3	3068.3	3191.4	3337.9	3496.9	3640.9	3780.7	3918.9	4030.2	4114.8
55°	2670.6	2700.8	2809.6	2935.2	3096.8	3255.0	3408.2	3546.3	3682.0	3786.6	3870.3
57.5°	2411.9	2441.2	2553.4	2695.7	2860.7	3024.8	3188.0	3318.6	3451.7	3551.4	3624.2
60°	2144.0	2177.5	2303.9	2458.0	2630.4	2807.9	2969.5	3102.6	3230.7	3322.0	3378.9
62.5°	1885.3	1940.6	2060.3	2231.9	2411.1	2597.8	2762.7	2895.8	3013.0	3089.2	3131.9
65°	1625.0	1701.2	1830.1	2020.1	2206.8	2400.2	2568.5	2699.1	2797.9	2859.8	2889.1
67.5°	1404.0	1477.6	1619.1	1824.2	2018.5	2219.4	2387.7	2503.2	2584.4	2636.3	2660.6
70°	1180.4	1270.0	1428.2	1644.2	1848.5	2051.1	2202.6	2304.8	2376.8	2427.8	2450.5
72.5°	995.4	1080.0	1262.5	1482.7	1695.3	1883.7	2018.5	2115.6	2195.1	2229.4	2240.3
75°	822.1	907.5	1108.4	1342.0	1550.5	1716.2	1845.2	1944.8	2005.1	2036.0	2046.9
77.5°	667.2	765.2	982.0	1213.1	1405.6	1560.5	1690.3	1774.0	1834.3	1859.4	1867.8
80°	526.6	634.6	870.7	1087.5	1265.8	1416.5	1532.9	1614.1	1668.5	1688.6	1691.1
82.5°	401.0	522.4	761.8	964.4	1131.0	1275.0	1382.2	1460.1	1498.6	1509.5	1506.9
85°	290.5	419.4	648.8	836.4	995.4	1126.0	1219.8	1287.6	1321.1	1329.5	1321.9
87.5°	198.4	324.8	538.3	708.3	843.9	959.4	1040.6	1099.2	1131.9	1135.2	1135.2
90°	87.9	243.6	427.0	557.6	664.7	754.3	818.8	874.9	902.5	910.9	918.4
92.5°	72.0	187.5	336.5	457.9	557.6	645.5	716.6	771.9	802.0	813.7	819.6
95°	84.6	153.2	250.3	342.4	432.8	509.0	571.8	630.4	661.4	677.3	694.0
97.5°	87.1	150.7	231.9	294.7	350.8	421.9	480.5	520.7	540.0	549.2	564.3
100°	91.3	153.2	250.3	288.0	330.7	370.9	403.5	452.1	475.5	483.9	487.2
102.5°	94.6	150.7	271.2	304.7	326.5	354.1	371.7	383.4	408.5	425.3	434.5
105°	100.5	148.2	269.6	351.6	342.4	352.5	365.9	373.4	385.9	364.2	378.4
107.5°	112.2	148.2	262.9	382.6	381.8	366.7	366.7	365.9	365.0	348.3	358.3
110°	118.9	127.3	254.5	374.2	431.2	398.5	380.9	368.4	356.6	348.3	340.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	120.6	113.9	252.0	362.5	474.7	471.3	409.4	383.4	362.5	344.1	333.2
115°	123.1	100.5	248.6	339.9	463.0	497.3	483.9	412.7	379.2	354.1	335.7
117.5°	127.3	100.5	252.0	336.5	448.7	545.8	521.6	474.7	409.4	373.4	348.3
120°	132.3	102.1	265.4	338.2	426.1	529.9	559.2	538.3	468.8	406.0	370.9
122.5°	135.6	103.8	245.3	335.7	398.5	510.7	591.1	564.3	543.3	469.7	407.7
125°	139.0	105.5	216.0	334.0	398.5	482.2	567.6	629.6	564.3	543.3	488.1
127.5°	141.5	105.5	170.8	336.5	396.0	439.5	540.8	606.1	622.0	563.4	543.3
130°	141.5	102.1	118.0	352.5	386.8	434.5	501.5	578.5	626.2	611.1	562.6
132.5°	140.6	101.3	92.1	322.3	380.9	429.5	460.5	544.2	599.4	632.9	617.8
135°	142.3	113.0	92.9	285.5	379.2	420.3	454.6	482.2	566.8	603.6	630.4
137.5°	144.0	128.9	94.6	237.8	400.2	409.4	447.9	470.5	514.0	571.8	601.1
140°	144.8	141.5	96.3	165.8	365.9	401.9	435.3	459.6	476.4	519.9	567.6
142.5°	146.5	153.2	98.0	110.5	322.3	411.1	420.3	448.7	465.5	477.2	510.7
145°	145.7	158.2	96.3	90.4	264.6	395.2	410.2	431.2	453.8	467.2	476.4
147.5°	144.0	154.9	94.6	90.4	180.0	344.1	429.5	418.6	437.8	455.4	465.5
150°	143.2	151.5	102.1	92.1	113.9	284.6	389.3	416.1	422.8	438.7	452.1
152.5°	144.0	149.9	124.7	95.4	91.3	198.4	331.5	411.1	414.4	422.8	432.8
155°	144.0	148.2	142.3	96.3	93.8	119.7	257.0	348.3	411.9	417.8	416.9
157.5°	144.0	147.3	154.9	101.3	96.3	92.1	148.2	272.1	346.6	399.3	434.5
160°	144.0	145.7	157.4	124.7	98.0	95.4	96.3	153.2	262.0	326.5	372.5
162.5°	144.0	144.8	152.4	146.5	103.0	97.1	95.4	96.3	138.1	221.9	283.8
165°	144.0	144.0	148.2	158.2	132.3	98.0	97.1	95.4	92.1	109.7	143.2
167.5°	143.2	143.2	145.7	152.4	153.2	127.3	98.8	96.3	94.6	92.9	90.4
170°	142.3	141.5	144.0	146.5	152.4	152.4	134.8	112.2	95.4	93.8	92.9
172.5°	141.5	140.6	141.5	143.2	144.0	147.3	152.4	149.0	137.3	122.2	106.3
175°	140.6	139.8	139.8	139.8	139.8	139.8	140.6	141.5	143.2	145.7	148.2
177.5°	139.8	138.1	138.1	138.1	137.3	136.5	135.6	134.8	134.0	133.1	132.3
180°	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	6800.5	6800.5	6800.5	6800.5	6800.5	6800.5	6800.5	6800.5
2.5°	6889.2	6907.6	6895.1	6881.7	6880.0	6899.3	6897.6	6894.2
5°	6958.7	6977.1	6969.6	6958.7	6958.7	6979.6	6977.1	6976.3
7.5°	6986.3	7008.9	7001.4	6990.5	6998.1	7009.8	7012.3	7008.9
10°	6980.5	7008.1	7003.9	6993.9	6993.9	7011.5	7008.9	7009.8
12.5°	6942.0	6980.5	6995.5	7002.2	7017.3	7042.4	7044.1	7046.6
15°	6927.7	6966.2	6968.8	6969.6	6984.7	7006.4	7002.2	7003.1
17.5°	6850.7	6881.7	6886.7	6894.2	6917.7	6952.8	6952.0	6962.1
20°	6744.4	6796.3	6825.6	6834.0	6843.2	6858.2	6840.7	6840.7
22.5°	6649.8	6669.0	6664.9	6684.9	6730.2	6760.3	6765.3	6763.6
25°	6465.6	6528.4	6580.3	6648.9	6716.8	6754.4	6762.0	6764.5
27.5°	6353.4	6461.4	6518.3	6556.0	6590.3	6611.3	6624.7	6620.5
30°	6246.3	6303.2	6348.4	6412.0	6458.1	6476.5	6487.4	6486.5
32.5°	6052.9	6129.1	6184.3	6252.1	6327.5	6353.4	6364.3	6365.1
35°	5859.5	5949.1	6030.3	6090.5	6145.0	6163.4	6175.1	6175.9
37.5°	5667.8	5754.8	5827.7	5885.4	5934.8	5952.4	5964.1	5971.7
40°	5450.9	5530.5	5601.6	5669.4	5719.7	5723.0	5733.9	5733.9
42.5°	5210.7	5296.1	5370.6	5424.1	5467.7	5470.2	5481.1	5480.2
45°	4965.4	5044.1	5116.9	5162.9	5209.0	5217.4	5230.8	5234.9
47.5°	4712.5	4792.9	4859.0	4905.1	4941.9	4952.8	4961.2	4962.0
50°	4454.7	4539.2	4595.3	4629.7	4659.0	4669.0	4674.9	4673.2
52.5°	4202.7	4278.9	4318.2	4345.0	4374.3	4380.2	4381.8	4365.9
55°	3948.2	4008.5	4035.2	4052.8	4070.4	4083.0	4082.1	4067.1
57.5°	3686.1	3738.9	3747.3	3771.5	3779.1	3790.0	3784.1	3771.5
60°	3425.8	3464.3	3466.8	3489.4	3494.4	3491.9	3494.4	3484.4
62.5°	3165.4	3193.9	3197.2	3218.2	3228.2	3226.5	3228.2	3221.5
65°	2915.9	2942.7	2946.1	2962.8	2973.7	2971.2	2969.5	2962.0
67.5°	2686.5	2707.5	2715.8	2724.2	2729.2	2721.7	2718.4	2712.5
70°	2463.8	2477.2	2479.8	2486.4	2494.0	2487.3	2492.3	2485.6
72.5°	2249.5	2263.8	2273.8	2277.2	2285.5	2277.2	2282.2	2278.0
75°	2057.8	2069.5	2074.6	2082.9	2093.0	2085.4	2088.8	2084.6
77.5°	1876.1	1885.3	1892.9	1895.4	1904.6	1895.4	1897.1	1889.5
80°	1692.8	1697.0	1701.2	1703.7	1712.9	1705.4	1706.2	1701.2
82.5°	1507.8	1512.8	1523.7	1521.2	1529.5	1521.2	1522.8	1526.2
85°	1320.2	1329.5	1336.2	1333.6	1342.0	1338.7	1336.2	1339.5
87.5°	1135.2	1142.8	1151.1	1150.3	1157.8	1154.5	1154.5	1159.5
90°	917.6	923.4	933.5	944.3	946.0	947.7	944.3	936.8
92.5°	820.4	828.0	835.5	843.0	849.7	848.1	846.4	848.1
95°	704.1	716.6	730.0	739.2	750.1	750.1	750.1	744.3
97.5°	574.3	586.9	597.8	605.3	613.7	614.5	613.7	613.7
100°	488.1	492.3	496.5	501.5	507.3	509.0	507.3	508.2
102.5°	437.8	443.7	447.1	449.6	451.2	451.2	448.7	446.2
105°	386.8	396.0	401.0	405.2	407.7	408.5	406.9	404.4
107.5°	339.1	347.4	355.8	361.7	365.9	367.5	365.9	363.3
110°	326.5	348.3	328.2	319.0	322.3	326.5	325.7	323.2



TEST NUMBER: P236562

CATALOG NUMBER: SKB4-LD5-24-W-UNV-L835-CD4-U outer 2 blades tilted out 20 degrees

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	329.0	326.5	315.6	309.8	325.7	333.2	328.2	325.7
115°	322.3	316.5	314.8	314.8	313.9	311.4	305.6	301.4
117.5°	331.5	319.0	310.6	306.4	304.7	302.2	298.0	294.7
120°	348.3	332.4	319.8	313.1	307.2	301.4	295.5	291.3
122.5°	374.2	352.5	335.7	326.5	319.8	313.1	306.4	301.4
125°	418.6	384.3	360.8	348.3	338.2	329.9	321.5	318.1
127.5°	526.6	442.9	402.7	380.9	365.0	353.3	344.1	339.1
130°	541.7	532.5	510.7	440.4	413.6	395.2	380.9	376.7
132.5°	562.6	546.7	533.3	524.9	517.4	506.5	480.5	475.5
135°	643.0	575.1	551.7	538.3	528.3	519.1	509.8	505.7
137.5°	622.0	637.9	615.3	566.8	550.0	537.5	526.6	521.6
140°	591.1	607.8	621.2	628.7	631.2	608.6	581.0	571.0
142.5°	554.2	575.1	589.4	598.6	604.4	604.4	598.6	595.2
145°	485.6	529.1	551.7	565.1	571.0	572.6	567.6	563.4
147.5°	470.5	474.7	484.7	514.9	528.3	534.1	531.6	528.3
150°	457.9	463.8	466.3	467.2	465.5	463.0	459.6	456.3
152.5°	442.9	450.4	452.9	454.6	453.8	451.2	443.7	439.5
155°	422.8	430.3	435.3	439.5	438.7	436.2	428.6	424.5
157.5°	409.4	411.9	415.2	417.8	417.8	416.1	410.2	406.9
160°	404.4	428.6	406.0	399.3	397.7	396.0	390.1	385.9
162.5°	324.8	355.0	376.7	392.6	401.9	409.4	406.0	403.5
165°	203.4	252.0	282.1	300.6	313.9	323.2	321.5	320.6
167.5°	92.9	112.2	127.3	141.5	164.9	188.4	190.0	192.6
170°	89.6	87.1	82.9	78.7	74.5	69.5	64.5	61.1
172.5°	92.9	87.1	83.7	80.4	76.2	70.3	64.5	59.4
175°	144.0	138.1	131.4	123.9	118.0	109.7	99.6	95.4
177.5°	129.8	128.1	125.6	122.2	118.9	113.0	105.5	100.5
180°	126.4	126.4	126.4	126.4	126.4	126.4	126.4	126.4

(END OF REPORT)