

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: P236508

Luminaire Tested: **SKB4-LD5-36-N-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: P236508
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24058)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: SKB4-LD5-36-N-UNV-L835-CD4-U outer 2 blades tilted out 20 degrees
Description: METALUX SKYBAR LED WAVESTREAM LUMINAIRE
4 BLADES WITH NARROW DISTRIBUTION LENS, OUTER 2 BLADES TILTED OUT 20
DEGREES
Light Source: (952) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

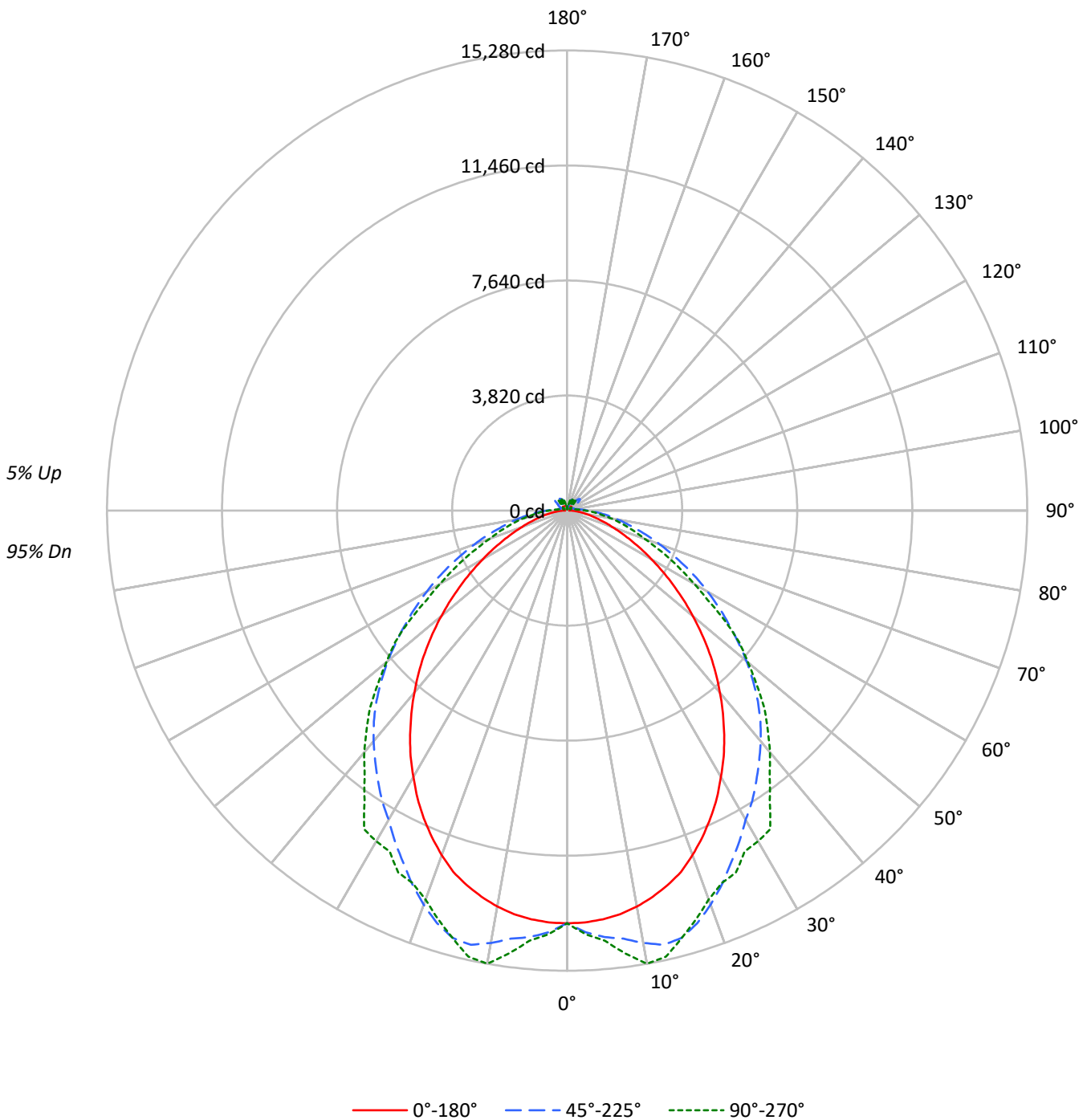
Lumens per Lamp: N/A
Luminaire Lumens: 39011.0 lumens
Efficiency: N/A
Efficacy: 117.0 lumens/watt
Spacing Criteria (0/90/45): 1.13 / 1.35 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 1.88' x L: 4' x H: 0.21')
CIE Type: Direct

Input Watts (W): 333.5
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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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	115	115	115	115	108	108	108	103	103	103	97	97	97	95
1	108	103	99	95	104	100	96	93	95	92	89	90	88	85	86	84	82	79
2	98	90	83	78	95	88	82	77	84	78	74	80	75	72	76	72	69	67
3	90	80	72	65	87	78	70	64	74	68	63	71	65	61	67	63	59	57
4	83	71	62	56	80	69	61	55	66	59	54	63	57	53	61	56	51	49
5	76	64	55	48	74	62	54	48	60	52	47	57	51	46	55	49	45	43
6	70	57	49	43	68	56	48	42	54	47	41	52	45	41	50	44	40	38
7	65	52	44	38	63	51	43	37	49	42	37	47	41	36	46	40	36	34
8	61	48	39	34	59	47	39	34	45	38	33	44	37	33	42	36	32	30
9	57	44	36	30	55	43	36	30	42	35	30	40	34	29	39	33	29	27
10	54	41	33	28	52	40	33	28	39	32	27	37	31	27	36	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	19665	19665	19665
5°	19538	20272	20458
10°	19279	20819	21840
15°	18867	21170	21205
20°	18244	20410	20174
25°	17415	19367	19967
30°	16428	18416	19747
35°	15367	17752	19071
40°	14174	17072	17966
45°	12893	16295	16917
50°	11466	15245	15442
55°	10002	14048	13867
60°	8524	12889	11750
65°	7118	11639	10229
70°	5861	10410	8790
75°	4812	9222	8089
80°	4046	8543	7415
85°	3420	8201	7176



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1359.0	3.5
10°-20°	4001.9	10.3
20°-30°	5852.7	15.0
30°-40°	6773.9	17.4
40°-50°	6556.1	16.8
50°-60°	5369.9	13.8
60°-70°	3723.4	9.5
70°-80°	2261.9	5.8
80°-90°	1163.3	3.0
90°-100°	456.4	1.2
100°-110°	265.1	0.7
110°-120°	257.9	0.7
120°-130°	276.6	0.7
130°-140°	280.6	0.7
140°-150°	212.1	0.5
150°-160°	136.0	0.3
160°-170°	53.4	0.1
170°-180°	10.9	0.0
0°-30°	11213.6	28.7
0°-40°	17987.5	46.1
0°-60°	29913.4	76.7
0°-90°	37062.0	95.0
90°-120°	979.4	2.5
90°-150°	1748.7	4.5
90°-180°	1949.0	5.0
0°-180°	39011.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	13702	13702	13702	13702	13702	
5°	13623	13992	14214	14274	14338	###
15°	12876	13763	14688	14720	14696	3622
25°	11265	12603	12888	13088	13262	5175
35°	9091	10270	10951	11686	11732	5674
45°	6683	7683	8955	9380	9261	5147
55°	4294	5396	6540	6638	6421	3851
65°	2330	3539	4276	4082	3730	2335
75°	1036	2246	2379	2229	2064	1130
85°	331	1238	1155	1082	989	334
90°	95	734	682	661	601	64
95°	73	471	439	417	374	61
105°	98	407	216	182	155	106
115°	140	553	249	155	118	140
125°	177	423	383	210	152	158
135°	183	446	536	386	244	142
145°	164	320	374	428	453	105
155°	153	82	402	450	428	71
165°	145	110	80	289	292	41
175°	139	136	142	142	136	13
180°	134	134	134	134	134	



TEST NUMBER: P236508

CATALOG NUMBER: SKB4-LD5-36-N-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°	13702.3	13702.3	13702.3	13702.3	13702.3	13702.3	13702.3	13702.3	13702.3	13702.3	13702.3
2.5°	13689.7	13680.2	13732.3	13795.4	13860.1	13849.0	13901.1	13967.3	13970.5	14013.1	14028.9
5°	13623.4	13636.0	13748.0	13871.1	13981.5	14002.1	14077.8	14163.0	14172.4	14213.5	14227.7
7.5°	13514.6	13557.1	13730.7	13891.6	14019.4	14036.8	14098.3	14202.4	14251.3	14339.7	14417.0
10°	13350.5	13438.8	13653.4	13811.2	13931.1	13986.3	14112.5	14289.2	14404.4	14576.3	14721.5
12.5°	13134.3	13254.2	13481.4	13642.3	13814.3	13937.4	14133.0	14393.3	14568.5	14768.8	14918.7
15°	12875.6	13027.0	13243.2	13442.0	13670.7	13855.3	14107.8	14410.7	14573.2	14688.4	14749.9
17.5°	12579.0	12733.6	12954.5	13197.4	13465.6	13697.6	13975.2	14241.9	14327.1	14363.4	14372.8
20°	12171.9	12377.0	12615.3	12892.9	13195.9	13464.1	13705.5	13916.9	13924.8	13924.8	13923.2
22.5°	11733.3	11966.8	12224.0	12530.1	12872.4	13142.2	13333.1	13486.2	13445.1	13432.5	13399.4
25°	11264.8	11501.4	11777.5	12116.7	12487.5	12719.4	12847.2	12954.5	12913.4	12888.2	12894.5
27.5°	10764.6	10998.1	11294.7	11659.2	12014.2	12200.3	12306.0	12400.7	12354.9	12383.3	12405.4
30°	10210.9	10463.3	10752.0	11146.4	11474.6	11602.4	11708.1	11805.9	11780.7	11853.2	12048.9
32.5°	9672.9	9896.9	10201.4	10584.8	10870.3	10969.7	11103.8	11185.9	11203.2	11435.1	11605.5
35°	9090.7	9311.6	9617.6	9982.1	10217.2	10322.9	10483.8	10543.7	10752.0	10950.8	11159.0
37.5°	8495.9	8707.3	9008.6	9351.0	9556.1	9672.9	9829.1	10035.7	10237.7	10474.3	10712.6
40°	7896.4	8088.9	8379.1	8688.4	8887.2	9037.0	9229.5	9511.9	9724.9	9994.7	10226.6
42.5°	7295.3	7476.7	7732.3	8006.8	8226.1	8369.7	8696.3	8964.5	9221.6	9500.9	9717.0
45°	6683.1	6826.7	7087.0	7342.6	7590.3	7774.9	8139.3	8421.7	8710.5	8955.0	9149.1
47.5°	6063.1	6197.2	6446.5	6698.9	6962.4	7222.7	7569.8	7886.9	8155.1	8374.4	8557.4
50°	5454.1	5578.7	5815.4	6089.9	6343.9	6657.9	7016.0	7334.7	7572.9	7767.0	7923.2
52.5°	4864.0	4976.1	5206.4	5493.5	5774.4	6094.6	6457.5	6766.7	6986.0	7150.1	7300.0
55°	4294.5	4412.8	4632.1	4914.5	5236.4	5556.6	5917.9	6198.8	6378.6	6539.6	6680.0
57.5°	3750.2	3865.4	4092.5	4376.5	4718.9	5043.9	5391.0	5645.0	5802.8	5957.4	6074.1
60°	3237.4	3355.8	3592.4	3889.0	4237.7	4561.1	4886.1	5107.0	5250.6	5387.8	5469.9
62.5°	2762.5	2880.9	3134.9	3450.4	3792.8	4109.9	4398.6	4584.8	4718.9	4830.9	4873.5
65°	2330.3	2453.3	2715.2	3046.5	3387.3	3690.2	3947.4	4097.3	4201.4	4275.6	4288.2
67.5°	1940.6	2082.6	2341.3	2697.9	3026.0	3305.3	3526.2	3638.2	3715.5	3747.0	3754.9
70°	1596.6	1746.5	2022.6	2382.3	2707.3	2959.8	3122.3	3199.6	3250.1	3267.4	3281.6
72.5°	1307.9	1456.2	1759.1	2107.8	2426.5	2630.0	2753.1	2802.0	2830.4	2816.2	2794.1
75°	1036.5	1208.5	1530.4	1875.9	2167.8	2323.9	2406.0	2440.7	2418.6	2379.2	2374.4
77.5°	825.1	993.9	1333.2	1673.9	1921.6	2038.4	2092.0	2081.0	2051.0	2021.0	2024.2
80°	634.2	809.4	1162.8	1479.9	1680.2	1776.5	1782.8	1767.0	1738.6	1710.2	1710.2
82.5°	471.7	659.5	1016.0	1281.1	1453.1	1508.3	1506.7	1486.2	1449.9	1416.8	1408.9
85°	331.3	528.5	850.4	1082.3	1219.6	1255.8	1244.8	1219.6	1191.2	1154.9	1147.0
87.5°	214.6	413.4	692.6	872.5	976.6	1000.3	986.1	959.2	938.7	908.8	904.0
90°	94.7	288.7	514.3	645.3	725.7	741.5	730.5	713.1	703.7	681.6	681.6
92.5°	61.5	200.4	378.6	498.6	575.9	599.5	588.5	572.7	561.7	544.3	539.6
95°	72.6	159.3	282.4	381.8	459.1	482.8	478.0	467.0	456.0	438.6	430.7
97.5°	78.9	153.0	271.4	339.2	383.4	407.0	399.2	386.5	372.3	353.4	343.9
100°	86.8	157.8	299.8	351.8	373.9	364.4	342.4	328.2	310.8	288.7	279.3
102.5°	96.2	156.2	320.3	388.1	392.8	367.6	326.6	288.7	268.2	246.1	233.5
105°	97.8	149.9	309.2	446.5	429.1	385.0	336.0	291.9	252.4	216.1	203.5
107.5°	101.0	143.6	291.9	470.2	487.5	421.2	347.1	299.8	257.2	214.6	190.9
110°	124.6	143.6	285.6	444.9	531.7	467.0	388.1	307.7	255.6	225.6	195.6



TEST NUMBER: P236508

CATALOG NUMBER: SKB4-LD5-36-N-UNV-L835-CD4-U outer 2 blades tilted out 20 degrees

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	132.5	123.1	279.3	396.0	564.8	528.5	433.9	353.4	271.4	214.6	198.8
115°	140.4	110.4	272.9	351.8	534.8	571.1	482.8	397.6	315.5	249.3	190.9
117.5°	149.9	107.3	274.5	370.8	481.2	616.9	525.4	440.2	359.7	288.7	231.9
120°	157.8	104.1	276.1	388.1	399.2	580.6	596.4	476.5	392.8	328.2	269.8
122.5°	168.8	107.3	258.7	381.8	377.1	520.6	618.5	550.6	422.8	356.6	301.3
125°	176.7	113.6	216.1	377.1	432.3	413.4	580.6	623.2	508.0	383.4	323.4
127.5°	184.6	119.9	170.4	372.3	457.5	355.0	509.6	596.4	579.0	478.0	353.4
130°	189.3	126.2	134.1	373.9	446.5	424.4	381.8	544.3	590.1	550.6	459.1
132.5°	187.7	134.1	96.2	353.4	432.3	484.4	331.3	454.4	552.2	571.1	542.7
135°	183.0	142.0	67.8	291.9	419.7	473.3	410.2	295.0	481.2	536.4	550.6
137.5°	179.9	157.8	64.7	220.9	419.7	452.8	487.5	334.5	331.3	468.6	512.8
140°	175.1	168.8	63.1	157.8	392.8	433.9	476.5	460.7	291.9	318.7	448.1
142.5°	170.4	173.5	66.3	105.7	320.3	422.8	449.6	476.5	394.4	272.9	291.9
145°	164.1	172.0	72.6	52.1	228.8	411.8	424.4	454.4	470.2	373.9	268.2
147.5°	162.5	168.8	83.6	47.3	157.8	339.2	419.7	429.1	454.4	463.8	391.3
150°	159.3	164.1	108.9	50.5	101.0	254.0	392.8	411.8	429.1	449.6	457.5
152.5°	156.2	159.3	137.3	58.4	53.6	170.4	317.1	413.4	408.6	422.8	441.8
155°	153.0	154.6	154.6	69.4	53.6	110.4	216.1	339.2	411.8	402.3	414.9
157.5°	151.5	151.5	165.7	96.2	55.2	50.5	151.5	241.4	334.5	394.4	408.6
160°	149.9	149.9	162.5	132.5	64.7	53.6	60.0	160.9	227.2	310.8	366.0
162.5°	146.7	146.7	151.5	153.0	97.8	56.8	52.1	58.4	145.1	187.7	263.5
165°	145.1	145.1	146.7	162.5	138.8	82.0	55.2	52.1	48.9	80.5	156.2
167.5°	143.6	142.0	143.6	149.9	159.3	132.5	86.8	58.4	50.5	48.9	45.8
170°	142.0	140.4	140.4	142.0	148.3	157.8	138.8	113.6	75.7	56.8	48.9
172.5°	140.4	138.8	138.8	138.8	138.8	142.0	151.5	154.6	140.4	127.8	107.3
175°	138.8	138.8	138.8	138.8	137.3	135.7	135.7	137.3	140.4	142.0	148.3
177.5°	137.3	137.3	137.3	137.3	137.3	135.7	134.1	134.1	132.5	130.9	129.4
180°	134.1	134.1	134.1	134.1	134.1	134.1	134.1	134.1	134.1	134.1	134.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	13702.3	13702.3	13702.3	13702.3	13702.3	13702.3	13702.3	13702.3
2.5°	14024.1	14036.8	14039.9	14052.5	14044.7	14084.1	14087.3	14079.4
5°	14224.5	14257.6	14260.8	14287.6	14292.4	14327.1	14344.4	14338.1
7.5°	14489.6	14581.1	14642.6	14713.6	14742.0	14811.4	14836.7	14835.1
10°	14852.4	14978.7	15070.2	15144.3	15182.2	15237.4	15270.5	15280.0
12.5°	15011.8	15087.5	15112.8	15122.2	15131.7	15144.3	15161.7	15169.6
15°	14764.1	14775.1	14743.6	14696.2	14686.8	14678.9	14691.5	14696.2
17.5°	14347.6	14333.4	14295.5	14265.5	14243.4	14230.8	14222.9	14232.4
20°	13888.5	13841.1	13782.8	13765.4	13751.2	13737.0	13732.3	13743.3
22.5°	13364.7	13339.4	13301.6	13312.6	13330.0	13358.4	13377.3	13391.5
25°	12874.0	12913.4	13022.3	13153.3	13214.8	13241.6	13246.3	13262.1
27.5°	12564.8	12654.7	12728.9	12787.2	12779.3	12769.9	12766.7	12763.6
30°	12189.3	12263.4	12353.4	12463.8	12544.3	12613.7	12657.9	12679.9
32.5°	11768.0	11900.6	12063.1	12255.5	12378.6	12481.2	12541.1	12545.8
35°	11337.3	11469.9	11627.6	11744.4	11752.3	11768.0	11746.0	11731.8
37.5°	10870.3	10996.5	11108.6	11185.9	11146.4	11111.7	11056.5	11043.9
40°	10382.8	10490.1	10570.6	10619.5	10565.8	10523.2	10494.8	10483.8
42.5°	9843.2	9928.4	9982.1	9988.4	9914.2	9879.5	9866.9	9851.1
45°	9257.9	9327.3	9381.0	9379.4	9324.2	9298.9	9284.7	9261.1
47.5°	8637.9	8721.5	8781.5	8756.2	8674.2	8623.7	8576.4	8521.1
50°	8013.1	8076.2	8092.0	8071.5	7959.5	7894.8	7861.7	7831.7
52.5°	7377.3	7418.3	7372.6	7356.8	7266.9	7249.5	7241.6	7216.4
55°	6732.0	6738.3	6661.0	6615.3	6501.7	6471.7	6459.1	6421.2
57.5°	6085.2	6058.4	5963.7	5899.0	5772.8	5676.6	5604.0	5542.4
60°	5449.4	5389.4	5307.4	5231.6	5102.3	5002.9	4933.5	4881.4
62.5°	4823.0	4759.9	4677.9	4603.7	4472.8	4371.8	4318.2	4280.3
65°	4259.8	4203.0	4116.2	4046.8	3923.7	3827.5	3769.1	3729.7
67.5°	3715.5	3679.2	3600.3	3499.3	3366.8	3283.2	3229.5	3190.1
70°	3212.2	3158.5	3074.9	2980.3	2873.0	2806.7	2768.9	2734.1
72.5°	2743.6	2678.9	2620.6	2554.3	2477.0	2423.3	2393.4	2383.9
75°	2341.3	2300.3	2253.0	2205.6	2145.7	2099.9	2069.9	2063.6
77.5°	2002.1	1970.5	1932.7	1894.8	1838.0	1797.0	1770.2	1757.6
80°	1686.6	1656.6	1620.3	1584.0	1533.5	1497.2	1473.6	1462.5
82.5°	1394.7	1364.7	1336.3	1309.5	1276.4	1238.5	1218.0	1211.7
85°	1132.8	1110.7	1091.8	1072.8	1044.4	1014.5	995.5	989.2
87.5°	899.3	891.4	877.2	864.6	842.5	817.2	801.5	795.2
90°	678.4	672.1	665.8	656.3	639.0	618.5	605.8	601.1
92.5°	536.4	531.7	527.0	519.1	506.4	489.1	476.5	471.7
95°	429.1	426.0	419.7	413.4	402.3	391.3	380.2	373.9
97.5°	339.2	337.6	332.9	329.7	323.4	310.8	301.3	295.0
100°	271.4	268.2	265.1	260.3	254.0	243.0	236.7	230.3
102.5°	225.6	222.5	217.7	213.0	206.7	198.8	190.9	186.2
105°	192.5	187.7	184.6	179.9	173.5	165.7	157.8	154.6
107.5°	170.4	168.8	160.9	156.2	148.3	143.6	137.3	130.9
110°	175.1	167.2	146.7	135.7	130.9	132.5	126.2	119.9



TEST NUMBER: P236508

CATALOG NUMBER: SKB4-LD5-36-N-UNV-L835-CD4-U outer 2 blades tilted out 20 degrees

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	183.0	165.7	151.5	146.7	143.6	138.8	124.6	118.3
115°	167.2	164.1	159.3	149.9	143.6	134.1	124.6	118.3
117.5°	183.0	153.0	138.8	134.1	134.1	134.1	127.8	121.5
120°	220.9	187.7	157.8	137.3	126.2	118.3	108.9	102.6
122.5°	255.6	217.7	189.3	170.4	157.8	143.6	132.5	124.6
125°	280.8	247.7	219.3	200.4	186.2	170.4	159.3	151.5
127.5°	299.8	268.2	243.0	227.2	213.0	198.8	187.7	179.9
130°	342.4	287.1	263.5	247.7	233.5	222.5	211.4	205.1
132.5°	443.3	377.1	296.6	266.6	249.3	239.8	230.3	219.3
135°	547.5	444.9	408.6	362.9	302.9	271.4	254.0	244.5
137.5°	525.4	534.8	520.6	426.0	396.0	380.2	367.6	361.3
140°	487.5	508.0	515.9	519.1	515.9	504.9	479.6	452.8
142.5°	416.5	457.5	481.2	489.1	490.7	489.1	484.4	478.0
145°	231.9	364.4	414.9	440.2	454.4	457.5	457.5	452.8
147.5°	280.8	235.1	228.8	336.0	380.2	399.2	400.7	402.3
150°	444.9	325.0	268.2	235.1	216.1	200.4	197.2	197.2
152.5°	451.2	452.8	443.3	358.1	295.0	261.9	244.5	235.1
155°	427.6	440.2	449.6	451.2	449.6	444.9	437.0	427.6
157.5°	405.5	411.8	424.4	429.1	430.7	430.7	426.0	422.8
160°	410.2	413.4	402.3	405.5	405.5	407.0	402.3	400.7
162.5°	318.7	356.6	385.0	403.9	413.4	407.0	399.2	391.3
165°	186.2	227.2	276.1	301.3	318.7	329.7	317.1	291.9
167.5°	56.8	99.4	145.1	164.1	173.5	173.5	159.3	153.0
170°	47.3	45.8	44.2	44.2	42.6	41.0	36.3	41.0
172.5°	86.8	72.6	58.4	55.2	53.6	47.3	44.2	39.4
175°	148.3	143.6	142.0	142.0	143.6	143.6	143.6	135.7
177.5°	127.8	127.8	132.5	135.7	140.4	145.1	137.3	132.5
180°	134.1	134.1	134.1	134.1	134.1	134.1	134.1	134.1

(END OF REPORT)