

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: P236510

Luminaire Tested: **SKB4-LD5-36-N-UNV-L850-CD4-U outer 2 blades tilted out 20 degrees**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236510
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-L850-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) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

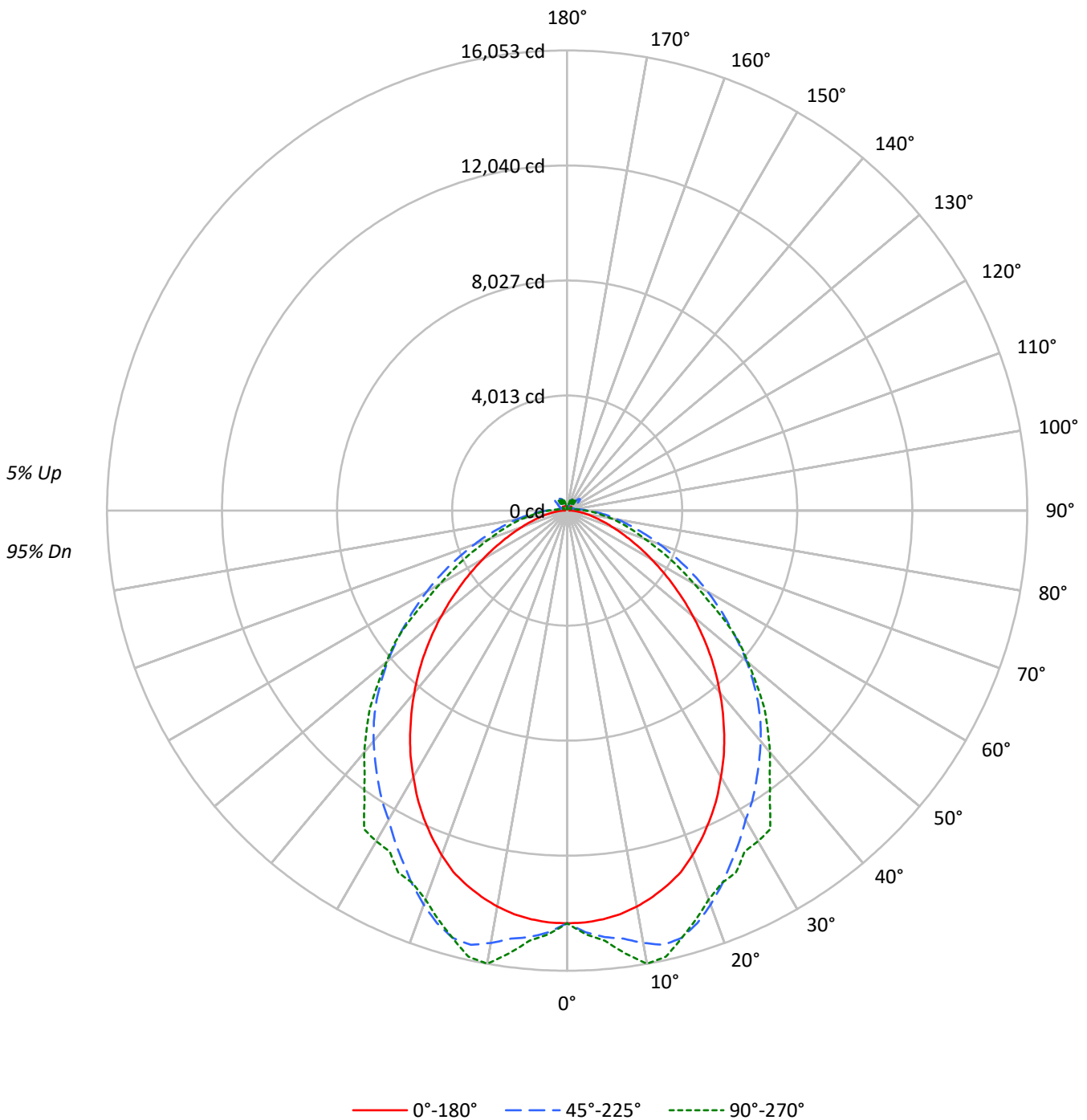
Lumens per Lamp: N/A
Luminaire Lumens: 40985.0 lumens
Efficiency: N/A
Efficacy: 122.9 lumens/watt
Spacing Criteria (0/90/45): 1.13 / 1.35 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 1.88' x L: 4' x H: 0.21')
CIE Type: Direct

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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CATALOG NUMBER: SKB4-LD5-36-N-UNV-L850-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	50	30	10	0	
RCR																						
0	118	118	118	118	115	115	115	115	108	108	108	103	103	103	97	97	97	95	95	95	95	
1	108	103	99	95	104	100	96	93	95	92	89	90	88	85	86	84	82	79	79	79	79	
2	98	90	83	78	95	88	82	77	84	78	74	80	75	72	76	72	69	67	67	67	67	
3	90	80	72	65	87	78	70	64	74	68	63	71	65	61	67	63	59	57	57	57	57	
4	83	71	62	56	80	69	61	55	66	59	54	63	57	53	61	56	51	49	49	49	49	
5	76	64	55	48	74	62	54	48	60	52	47	57	51	46	55	49	45	43	43	43	43	
6	70	57	49	43	68	56	48	42	54	47	41	52	45	41	50	44	40	38	38	38	38	
7	65	52	44	38	63	51	43	37	49	42	37	47	41	36	46	40	36	34	34	34	34	
8	61	48	39	34	59	47	39	34	45	38	33	44	37	33	42	36	32	30	30	30	30	
9	57	44	36	30	55	43	36	30	42	35	30	40	34	29	39	33	29	27	27	27	27	
10	54	41	33	28	52	40	33	28	39	32	27	37	31	27	36	31	27	25	25	25	25	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	20660	20660	20660
5°	20527	21298	21493
10°	20254	21872	22945
15°	19822	22241	22278
20°	19167	21443	21195
25°	18297	20347	20977
30°	17259	19348	20746
35°	16144	18650	20036
40°	14892	17936	18876
45°	13545	17120	17773
50°	12046	16017	16223
55°	10508	14759	14568
60°	8955	13541	12345
65°	7479	12228	10746
70°	6158	10937	9235
75°	5056	9688	8498
80°	4251	8976	7790
85°	3593	8616	7539



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CATALOG NUMBER: SKB4-LD5-36-N-UNV-L850-CD4-U outer 2 blades tilted out 20 degrees

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1427.8	3.5
10°-20°	4204.4	10.3
20°-30°	6148.8	15.0
30°-40°	7116.6	17.4
40°-50°	6887.8	16.8
50°-60°	5641.6	13.8
60°-70°	3911.8	9.5
70°-80°	2376.3	5.8
80°-90°	1222.2	3.0
90°-100°	479.4	1.2
100°-110°	278.5	0.7
110°-120°	270.9	0.7
120°-130°	290.6	0.7
130°-140°	294.8	0.7
140°-150°	222.8	0.5
150°-160°	142.8	0.3
160°-170°	56.1	0.1
170°-180°	11.5	0.0
0°-30°	11781.0	28.7
0°-40°	18897.7	46.1
0°-60°	31427.1	76.7
0°-90°	38937.4	95.0
90°-120°	1028.9	2.5
90°-150°	1837.1	4.5
90°-180°	2048.0	5.0
0°-180°	40985.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	14396	14396	14396	14396	14396	
5°	14313	14700	14933	14996	15064	###
15°	13527	14459	15432	15465	15440	3806
25°	11835	13241	13540	13750	13933	5437
35°	9551	10790	11505	12277	12325	5962
45°	7021	8071	9408	9855	9730	5407
55°	4512	5670	6870	6974	6746	4046
65°	2448	3718	4492	4288	3918	2453
75°	1089	2359	2500	2342	2168	1187
85°	348	1300	1213	1137	1039	351
90°	100	771	716	694	632	67
95°	76	495	461	438	393	65
105°	103	428	227	191	162	111
115°	148	581	262	162	124	147
125°	186	444	403	220	159	166
135°	192	469	564	405	257	149
145°	172	336	393	449	476	110
155°	161	86	423	473	449	75
165°	152	116	84	303	307	43
175°	146	143	149	149	142	14
180°	141	141	141	141	141	



TEST NUMBER: P236510

CATALOG NUMBER: SKB4-LD5-36-N-UNV-L850-CD4-U outer 2 blades tilted out 20 degrees

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	14395.6	14395.6	14395.6	14395.6	14395.6	14395.6	14395.6	14395.6	14395.6	14395.6	14395.6
2.5°	14382.4	14372.4	14427.1	14493.4	14561.4	14549.8	14604.5	14674.1	14677.4	14722.2	14738.8
5°	14312.8	14326.0	14443.7	14573.0	14689.0	14710.6	14790.1	14879.6	14889.6	14932.7	14947.6
7.5°	14198.4	14243.2	14425.5	14594.6	14728.8	14747.0	14811.7	14921.1	14972.5	15065.3	15146.5
10°	14026.0	14118.8	14344.3	14510.0	14636.0	14694.0	14826.6	15012.2	15133.2	15313.9	15466.4
12.5°	13798.9	13924.9	14163.6	14332.7	14513.3	14642.6	14848.2	15121.6	15305.6	15516.1	15673.6
15°	13527.1	13686.2	13913.3	14122.2	14362.5	14556.4	14821.6	15139.9	15310.6	15431.6	15496.2
17.5°	13215.5	13377.9	13610.0	13865.2	14147.0	14390.7	14682.4	14962.5	15052.0	15090.2	15100.1
20°	12787.8	13003.3	13253.6	13545.3	13863.6	14145.4	14399.0	14621.1	14629.4	14629.4	14627.7
22.5°	12327.1	12572.4	12842.5	13164.1	13523.8	13807.2	14007.8	14168.6	14125.5	14112.2	14077.4
25°	11834.8	12083.4	12373.5	12729.8	13119.3	13363.0	13497.3	13610.0	13566.9	13540.4	13547.0
27.5°	11309.3	11554.6	11866.3	12249.1	12622.1	12817.7	12928.7	13028.2	12980.1	13010.0	13033.2
30°	10727.5	10992.7	11296.1	11710.4	12055.2	12189.5	12300.5	12403.3	12376.8	12453.0	12658.6
32.5°	10162.3	10397.7	10717.6	11120.4	11420.4	11524.8	11665.7	11751.9	11770.1	12013.8	12192.8
35°	9550.7	9782.7	10104.3	10487.2	10734.2	10845.2	11014.3	11077.3	11296.1	11504.9	11723.7
37.5°	8925.8	9147.9	9464.5	9824.2	10039.7	10162.3	10326.4	10543.5	10755.7	11004.3	11254.6
40°	8295.9	8498.2	8803.1	9128.0	9336.9	9494.3	9696.6	9993.2	10217.0	10500.5	10744.1
42.5°	7664.4	7855.0	8123.6	8412.0	8642.4	8793.2	9136.3	9418.1	9688.3	9981.6	10208.7
45°	7021.3	7172.1	7445.6	7714.1	7974.4	8168.3	8551.2	8847.9	9151.2	9408.1	9612.0
47.5°	6369.9	6510.8	6772.7	7037.9	7314.7	7588.2	7952.8	8286.0	8567.8	8798.2	8990.4
50°	5730.1	5861.0	6109.7	6398.1	6664.9	6994.8	7371.0	7705.9	7956.1	8160.0	8324.1
52.5°	5110.2	5227.8	5469.8	5771.5	6066.6	6403.0	6784.3	7109.1	7339.5	7511.9	7669.4
55°	4511.8	4636.1	4866.5	5163.2	5501.3	5837.8	6217.4	6512.4	6701.4	6870.5	7018.0
57.5°	3939.9	4060.9	4299.6	4598.0	4957.7	5299.1	5663.8	5930.6	6096.4	6258.8	6381.5
60°	3401.3	3525.6	3774.2	4085.8	4452.1	4791.9	5133.4	5365.4	5516.3	5660.5	5746.7
62.5°	2902.3	3026.6	3293.5	3625.0	3984.7	4317.9	4621.2	4816.8	4957.7	5075.4	5120.1
65°	2448.2	2577.5	2852.6	3200.7	3558.7	3877.0	4147.1	4304.6	4414.0	4491.9	4505.2
67.5°	2038.8	2187.9	2459.8	2834.4	3179.1	3472.5	3704.6	3822.3	3903.5	3936.6	3944.9
70°	1677.4	1834.9	2125.0	2502.9	2844.3	3109.5	3280.3	3361.5	3414.5	3432.7	3447.7
72.5°	1374.1	1529.9	1848.1	2214.5	2549.3	2763.1	2892.4	2943.8	2973.6	2958.7	2935.5
75°	1089.0	1269.7	1607.8	1970.8	2277.4	2441.5	2527.7	2564.2	2541.0	2499.6	2494.6
77.5°	866.9	1044.2	1400.6	1758.6	2018.9	2141.5	2197.9	2186.3	2154.8	2123.3	2126.6
80°	666.3	850.3	1221.6	1554.8	1765.3	1866.4	1873.0	1856.4	1826.6	1796.8	1796.8
82.5°	495.6	692.8	1067.4	1345.9	1526.6	1584.6	1582.9	1561.4	1523.3	1488.5	1480.2
85°	348.1	555.3	893.4	1137.1	1281.3	1319.4	1307.8	1281.3	1251.4	1213.3	1205.0
87.5°	225.4	434.3	727.7	916.6	1026.0	1050.9	1036.0	1007.8	986.2	954.7	949.8
90°	99.5	303.3	540.4	677.9	762.5	779.0	767.4	749.2	739.3	716.1	716.1
92.5°	64.6	210.5	397.8	523.8	605.0	629.9	618.3	601.7	590.1	571.8	566.9
95°	76.2	167.4	296.7	401.1	482.3	507.2	502.2	490.6	479.0	460.8	452.5
97.5°	82.9	160.8	285.1	356.4	402.8	427.6	419.4	406.1	391.2	371.3	361.3
100°	91.2	165.8	314.9	369.6	392.8	382.9	359.7	344.8	326.5	303.3	293.4
102.5°	101.1	164.1	336.5	407.8	412.7	386.2	343.1	303.3	281.8	258.6	245.3
105°	102.8	157.5	324.9	469.1	450.8	404.4	353.1	306.6	265.2	227.1	213.8
107.5°	106.1	150.8	306.6	493.9	512.2	442.6	364.7	314.9	270.2	225.4	200.6
110°	130.9	150.8	300.0	467.4	558.6	490.6	407.8	323.2	268.5	237.0	205.5



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CATALOG NUMBER: SKB4-LD5-36-N-UNV-L850-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°	139.2	129.3	293.4	416.0	593.4	555.3	455.8	371.3	285.1	225.4	208.8
115°	147.5	116.0	286.8	369.6	561.9	600.0	507.2	417.7	331.5	261.9	200.6
117.5°	157.5	112.7	288.4	389.5	505.5	648.1	552.0	462.5	377.9	303.3	243.7
120°	165.8	109.4	290.1	407.8	419.4	610.0	626.5	500.6	412.7	344.8	283.4
122.5°	177.4	112.7	271.8	401.1	396.1	547.0	649.8	578.5	444.2	374.6	316.6
125°	185.6	119.3	227.1	396.1	454.2	434.3	610.0	654.7	533.7	402.8	339.8
127.5°	193.9	126.0	179.0	391.2	480.7	372.9	535.4	626.5	608.3	502.2	371.3
130°	198.9	132.6	140.9	392.8	469.1	445.9	401.1	571.8	619.9	578.5	482.3
132.5°	197.2	140.9	101.1	371.3	454.2	508.9	348.1	477.4	580.1	600.0	570.2
135°	192.3	149.2	71.3	306.6	440.9	497.3	431.0	310.0	505.5	563.6	578.5
137.5°	189.0	165.8	68.0	232.1	440.9	475.7	512.2	351.4	348.1	492.3	538.7
140°	184.0	177.4	66.3	165.8	412.7	455.8	500.6	484.0	306.6	334.8	470.7
142.5°	179.0	182.3	69.6	111.1	336.5	444.2	472.4	500.6	414.4	286.8	306.6
145°	172.4	180.7	76.2	54.7	240.3	432.6	445.9	477.4	493.9	392.8	281.8
147.5°	170.7	177.4	87.8	49.7	165.8	356.4	440.9	450.8	477.4	487.3	411.1
150°	167.4	172.4	114.4	53.0	106.1	266.9	412.7	432.6	450.8	472.4	480.7
152.5°	164.1	167.4	144.2	61.3	56.4	179.0	333.2	434.3	429.3	444.2	464.1
155°	160.8	162.4	162.4	72.9	56.4	116.0	227.1	356.4	432.6	422.7	435.9
157.5°	159.1	159.1	174.0	101.1	58.0	53.0	159.1	253.6	351.4	414.4	429.3
160°	157.5	157.5	170.7	139.2	68.0	56.4	63.0	169.1	238.7	326.5	384.5
162.5°	154.2	154.2	159.1	160.8	102.8	59.7	54.7	61.3	152.5	197.2	276.8
165°	152.5	152.5	154.2	170.7	145.9	86.2	58.0	54.7	51.4	84.5	164.1
167.5°	150.8	149.2	150.8	157.5	167.4	139.2	91.2	61.3	53.0	51.4	48.1
170°	149.2	147.5	147.5	149.2	155.8	165.8	145.9	119.3	79.6	59.7	51.4
172.5°	147.5	145.9	145.9	145.9	145.9	149.2	159.1	162.4	147.5	134.3	112.7
175°	145.9	145.9	145.9	145.9	144.2	142.5	142.5	144.2	147.5	149.2	155.8
177.5°	144.2	144.2	144.2	144.2	144.2	142.5	140.9	140.9	139.2	137.6	135.9
180°	140.9	140.9	140.9	140.9	140.9	140.9	140.9	140.9	140.9	140.9	140.9



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CATALOG NUMBER: SKB4-LD5-36-N-UNV-L850-CD4-U outer 2 blades tilted out 20 degrees

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	14395.6	14395.6	14395.6	14395.6	14395.6	14395.6	14395.6	14395.6
2.5°	14733.8	14747.0	14750.4	14763.6	14755.3	14796.8	14800.1	14791.8
5°	14944.3	14979.1	14982.4	15010.6	15015.6	15052.0	15070.3	15063.6
7.5°	15222.8	15318.9	15383.5	15458.1	15488.0	15560.9	15587.4	15585.8
10°	15604.0	15736.6	15832.7	15910.6	15950.4	16008.4	16043.2	16053.2
12.5°	15771.4	15851.0	15877.5	15887.4	15897.4	15910.6	15928.9	15937.2
15°	15511.2	15522.8	15489.6	15439.9	15429.9	15421.7	15434.9	15439.9
17.5°	15073.6	15058.7	15018.9	14987.4	14964.2	14950.9	14942.6	14952.6
20°	14591.2	14541.5	14480.2	14461.9	14447.0	14432.1	14427.1	14438.7
22.5°	14040.9	14014.4	13974.6	13986.2	14004.5	14034.3	14054.2	14069.1
25°	13525.4	13566.9	13681.3	13818.8	13883.5	13911.6	13916.6	13933.2
27.5°	13200.6	13295.0	13373.0	13434.3	13426.0	13416.0	13412.7	13409.4
30°	12806.1	12884.0	12978.5	13094.5	13179.0	13252.0	13298.4	13321.6
32.5°	12363.5	12502.7	12673.5	12875.7	13005.0	13112.7	13175.7	13180.7
35°	11911.0	12050.2	12216.0	12338.7	12346.9	12363.5	12340.3	12325.4
37.5°	11420.4	11553.0	11670.7	11751.9	11710.4	11674.0	11616.0	11602.7
40°	10908.2	11020.9	11105.5	11156.8	11100.5	11055.7	11025.9	11014.3
42.5°	10341.3	10430.8	10487.2	10493.8	10415.9	10379.5	10366.2	10349.6
45°	9726.4	9799.3	9855.7	9854.0	9796.0	9769.5	9754.6	9729.7
47.5°	9075.0	9162.8	9225.8	9199.3	9113.1	9060.1	9010.3	8952.3
50°	8418.6	8484.9	8501.5	8479.9	8362.2	8294.3	8259.5	8228.0
52.5°	7750.6	7793.7	7745.6	7729.1	7634.6	7616.4	7608.1	7581.5
55°	7072.7	7079.3	6998.1	6950.0	6830.7	6799.2	6785.9	6746.1
57.5°	6393.1	6364.9	6265.5	6197.5	6064.9	5963.8	5887.5	5822.9
60°	5725.1	5662.1	5575.9	5496.4	5360.5	5256.0	5183.1	5128.4
62.5°	5067.1	5000.8	4914.6	4836.7	4699.1	4593.0	4536.7	4496.9
65°	4475.3	4415.7	4324.5	4251.6	4122.3	4021.2	3959.8	3918.4
67.5°	3903.5	3865.4	3782.5	3676.4	3537.2	3449.3	3393.0	3351.5
70°	3374.7	3318.4	3230.5	3131.1	3018.4	2948.7	2909.0	2872.5
72.5°	2882.4	2814.5	2753.2	2683.5	2602.3	2546.0	2514.5	2504.5
75°	2459.8	2416.7	2367.0	2317.2	2254.2	2206.2	2174.7	2168.0
77.5°	2103.4	2070.3	2030.5	1990.7	1931.0	1887.9	1859.7	1846.5
80°	1771.9	1740.4	1702.3	1664.2	1611.1	1573.0	1548.1	1536.5
82.5°	1465.3	1433.8	1403.9	1375.7	1340.9	1301.2	1279.6	1273.0
85°	1190.1	1166.9	1147.0	1127.1	1097.3	1065.8	1045.9	1039.3
87.5°	944.8	936.5	921.6	908.3	885.1	858.6	842.0	835.4
90°	712.7	706.1	699.5	689.5	671.3	649.8	636.5	631.5
92.5°	563.6	558.6	553.6	545.3	532.1	513.8	500.6	495.6
95°	450.8	447.5	440.9	434.3	422.7	411.1	399.5	392.8
97.5°	356.4	354.7	349.7	346.4	339.8	326.5	316.6	310.0
100°	285.1	281.8	278.5	273.5	266.9	255.3	248.6	242.0
102.5°	237.0	233.7	228.7	223.8	217.1	208.8	200.6	195.6
105°	202.2	197.2	193.9	189.0	182.3	174.0	165.8	162.4
107.5°	179.0	177.4	169.1	164.1	155.8	150.8	144.2	137.6
110°	184.0	175.7	154.2	142.5	137.6	139.2	132.6	126.0



TEST NUMBER: P236510

CATALOG NUMBER: SKB4-LD5-36-N-UNV-L850-CD4-U outer 2 blades tilted out 20 degrees

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	192.3	174.0	159.1	154.2	150.8	145.9	130.9	124.3
115°	175.7	172.4	167.4	157.5	150.8	140.9	130.9	124.3
117.5°	192.3	160.8	145.9	140.9	140.9	140.9	134.3	127.6
120°	232.1	197.2	165.8	144.2	132.6	124.3	114.4	107.7
122.5°	268.5	228.7	198.9	179.0	165.8	150.8	139.2	130.9
125°	295.0	260.2	230.4	210.5	195.6	179.0	167.4	159.1
127.5°	314.9	281.8	255.3	238.7	223.8	208.8	197.2	189.0
130°	359.7	301.7	276.8	260.2	245.3	233.7	222.1	215.5
132.5°	465.8	396.1	311.6	280.1	261.9	251.9	242.0	230.4
135°	575.2	467.4	429.3	381.2	318.2	285.1	266.9	256.9
137.5°	552.0	561.9	547.0	447.5	416.0	399.5	386.2	379.6
140°	512.2	533.7	542.0	545.3	542.0	530.4	503.9	475.7
142.5°	437.6	480.7	505.5	513.8	515.5	513.8	508.9	502.2
145°	243.7	382.9	435.9	462.5	477.4	480.7	480.7	475.7
147.5°	295.0	247.0	240.3	353.1	399.5	419.4	421.0	422.7
150°	467.4	341.5	281.8	247.0	227.1	210.5	207.2	207.2
152.5°	474.1	475.7	465.8	376.3	310.0	275.1	256.9	247.0
155°	449.2	462.5	472.4	474.1	472.4	467.4	459.1	449.2
157.5°	426.0	432.6	445.9	450.8	452.5	452.5	447.5	444.2
160°	431.0	434.3	422.7	426.0	426.0	427.6	422.7	421.0
162.5°	334.8	374.6	404.4	424.3	434.3	427.6	419.4	411.1
165°	195.6	238.7	290.1	316.6	334.8	346.4	333.2	306.6
167.5°	59.7	104.4	152.5	172.4	182.3	182.3	167.4	160.8
170°	49.7	48.1	46.4	46.4	44.8	43.1	38.1	43.1
172.5°	91.2	76.2	61.3	58.0	56.4	49.7	46.4	41.4
175°	155.8	150.8	149.2	149.2	150.8	150.8	150.8	142.5
177.5°	134.3	134.3	139.2	142.5	147.5	152.5	144.2	139.2
180°	140.9	140.9	140.9	140.9	140.9	140.9	140.9	140.9

(END OF REPORT)