

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: P236485

Luminaire Tested: **SKB4-LD5-36-N-UNV-L840-CD4-U all blades tilted out 20 degrees**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236485
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-LD5-36-N-UNV-L840-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) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

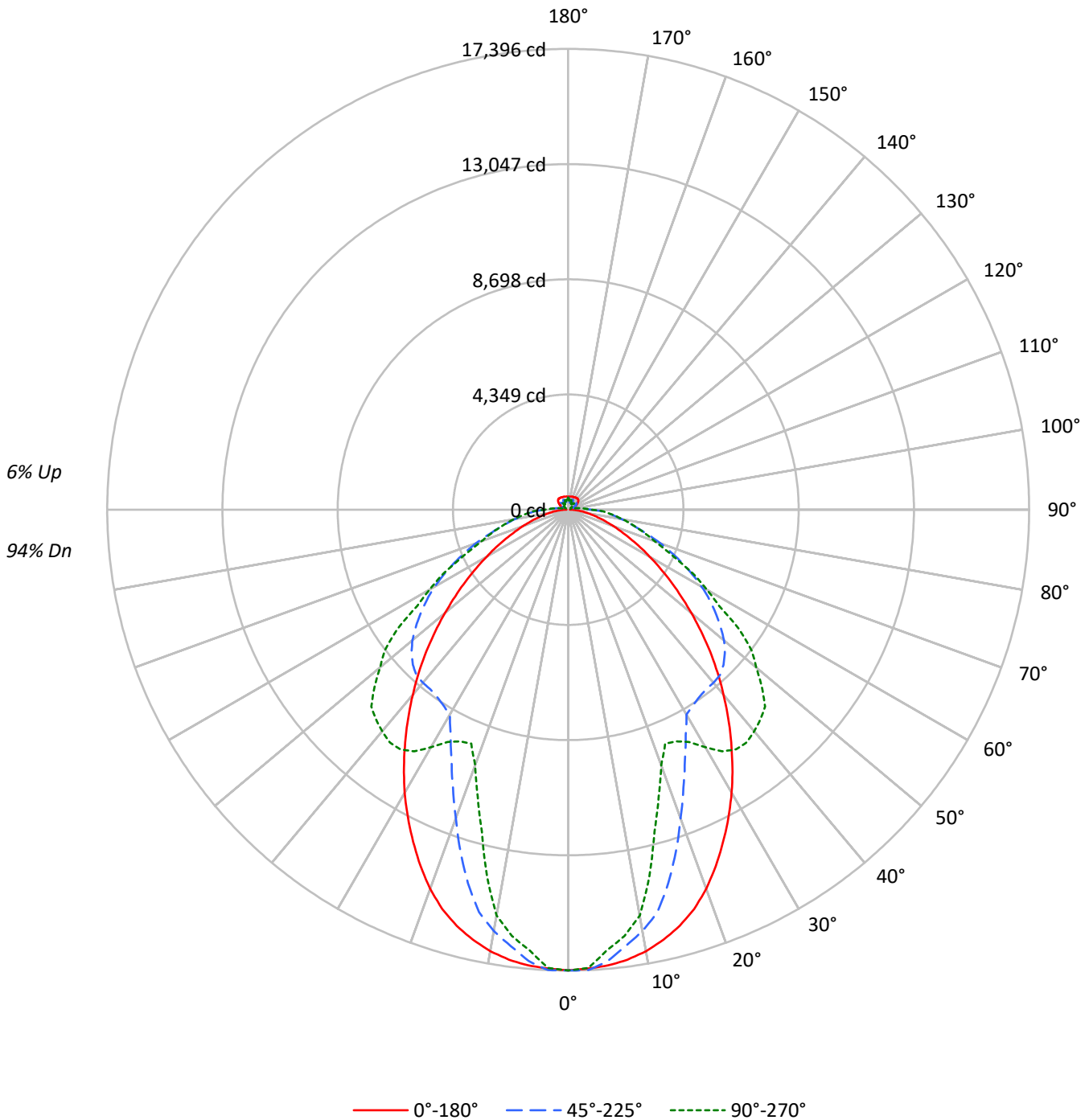
Lumens per Lamp: N/A
Luminaire Lumens: 39603.0 lumens
Efficiency: N/A
Efficacy: 118.7 lumens/watt
Spacing Criteria (0/90/45): 1.08 / 0.71 / 1.1
Luminous Opening: Rectangular w/ Sides (W: 1.88' x L: 4' x H: 0.21')
CIE Type: Direct

Input Watts (W): 333.5
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

TEST NUMBER: P236485

CATALOG NUMBER: SKB4-LD5-36-N-UNV-L840-CD4-U all blades tilted out 20 degrees

Luminous Intensity Polar Plot





TEST NUMBER: P236485

CATALOG NUMBER: SKB4-LD5-36-N-UNV-L840-CD4-U all blades tilted out 20 degrees

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	118	118	118	118	114	114	114	114	108	108	108	102	102	102	97	97	97	94					94			
1	107	102	98	94	104	99	95	91	94	91	88	89	86	84	85	82	80	78					78			
2	97	89	82	76	94	87	80	75	82	77	72	78	74	70	74	71	68	65					65			
3	89	78	70	64	86	76	69	63	73	66	61	69	64	59	66	61	58	55					55			
4	82	70	61	54	79	68	60	54	65	58	52	62	56	51	59	54	50	47					47			
5	75	62	54	47	73	61	53	46	58	51	45	56	49	44	53	48	43	41					41			
6	70	56	48	41	67	55	47	41	53	45	40	51	44	39	49	43	38	36					36			
7	65	51	43	37	63	50	42	36	48	41	36	46	40	35	44	39	34	32					32			
8	60	47	39	33	58	46	38	32	44	37	32	43	36	31	41	35	31	29					29			
9	56	43	35	30	55	42	35	29	41	34	29	39	33	29	38	32	28	26					26			
10	53	40	32	27	51	39	32	27	38	31	26	37	30	26	35	30	26	24					24			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	24962	24962	24962
5°	24766	24396	23833
10°	24435	23069	22233
15°	23829	21039	18141
20°	22821	18172	15064
25°	21389	15658	14522
30°	19845	13874	16119
35°	18122	13985	17951
40°	16382	14563	18715
45°	14604	15075	19196
50°	12744	15061	18270
55°	11000	14588	17018
60°	9359	13920	14526
65°	7890	12897	12684
70°	6687	11782	11164
75°	5581	10547	10660
80°	4723	10162	10574
85°	3904	10536	10927



TEST NUMBER: P236485

CATALOG NUMBER: SKB4-LD5-36-N-UNV-L840-CD4-U all blades tilted out 20 degrees

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1602.1	4.0
10°-20°	4050.7	10.2
20°-30°	5169.2	13.1
30°-40°	6148.1	15.5
40°-50°	6538.4	16.5
50°-60°	5729.4	14.5
60°-70°	4129.6	10.4
70°-80°	2600.4	6.6
80°-90°	1452.1	3.7
90°-100°	556.6	1.4
100°-110°	279.5	0.7
110°-120°	263.4	0.7
120°-130°	285.0	0.7
130°-140°	275.4	0.7
140°-150°	213.8	0.5
150°-160°	164.8	0.4
160°-170°	106.8	0.3
170°-180°	37.6	0.1
0°-30°	10822.0	27.3
0°-40°	16970.2	42.9
0°-60°	29238.0	73.8
0°-90°	37420.2	94.5
90°-120°	1099.4	2.8
90°-150°	1873.6	4.7
90°-180°	2183.0	5.5
0°-180°	39603.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	17393	17393	17393	17393	17393	
5°	17269	17347	17105	16760	16704	###
15°	16261	15768	14598	13150	12573	4565
25°	13835	12790	10420	9450	9646	6357
35°	10721	9375	8627	10391	11043	6699
45°	7570	6644	8284	10034	10508	5836
55°	4723	4814	6791	7745	7880	4245
65°	2583	3333	4738	4985	4625	2596
75°	1202	2212	2721	2812	2720	1302
85°	378	1287	1484	1567	1506	387
90°	100	754	859	909	872	67
95°	77	474	546	599	571	68
105°	153	402	217	188	166	165
115°	290	503	238	147	103	289
125°	431	398	340	208	148	385
135°	536	443	356	340	227	410
145°	542	424	294	266	270	341
155°	521	321	414	276	225	243
165°	510	360	309	389	383	145
175°	497	474	417	373	380	48
180°	462	462	462	462	462	



TEST NUMBER: P236485

CATALOG NUMBER: SKB4-LD5-36-N-UNV-L840-CD4-U all blades tilted out 20 degrees

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	17392.7	17392.7	17392.7	17392.7	17392.7	17392.7	17392.7	17392.7	17392.7	17392.7	17392.7
2.5°	17334.8	17402.4	17444.2	17499.0	17473.2	17402.4	17408.8	17445.9	17386.3	17396.0	17336.4
5°	17268.8	17338.0	17373.4	17421.7	17391.1	17302.6	17273.7	17262.4	17144.9	17104.7	16961.5
7.5°	17133.7	17201.2	17228.6	17262.4	17175.5	17013.0	16908.4	16823.1	16671.8	16610.7	16480.3
10°	16921.2	16980.8	16990.4	16963.1	16808.6	16602.6	16470.6	16387.0	16229.3	16152.0	15992.7
12.5°	16625.1	16671.8	16639.6	16575.3	16385.4	16166.5	16036.2	15883.3	15686.9	15559.8	15312.0
15°	16261.4	16280.8	16198.7	16115.0	15899.4	15637.1	15443.9	15207.4	14903.2	14597.5	14204.8
17.5°	15801.2	15801.2	15690.2	15585.6	15312.0	14962.8	14681.2	14315.9	13910.3	13524.1	13017.2
20°	15225.1	15225.1	15096.4	14967.6	14600.7	14183.9	13826.7	13379.3	12872.4	12397.6	11877.9
22.5°	14563.7	14584.6	14449.4	14254.7	13833.1	13369.6	12978.6	12391.2	11829.6	11361.3	10864.0
25°	13834.7	13849.2	13710.8	13491.9	13044.6	12534.4	12029.1	11411.2	10859.2	10419.9	9972.5
27.5°	13100.9	13115.4	12964.1	12705.0	12222.2	11659.0	11110.2	10493.9	10009.5	9600.8	9196.8
30°	12334.9	12338.1	12151.4	11897.2	11380.6	10754.6	10231.6	9692.5	9237.1	8929.7	9010.2
32.5°	11535.1	11541.5	11367.7	11074.8	10522.9	9893.7	9438.2	8957.1	8612.7	8764.0	8947.4
35°	10720.8	10717.6	10561.5	10242.9	9657.1	9092.2	8723.7	8289.2	8403.5	8627.2	8937.8
37.5°	9917.8	9909.7	9753.6	9414.1	8838.0	8368.1	8017.3	7980.3	8195.9	8541.9	9042.4
40°	9126.0	9126.0	8945.8	8588.6	8072.0	7711.5	7492.7	7713.1	8004.4	8525.8	9098.7
42.5°	8343.9	8329.5	8146.0	7788.8	7375.2	7063.0	7166.0	7434.7	7869.2	8475.9	8994.1
45°	7569.9	7542.5	7363.9	7042.1	6739.5	6548.0	6815.2	7177.2	7716.3	8284.4	8783.3
47.5°	6800.7	6781.4	6612.4	6353.3	6131.2	6165.0	6445.0	6927.8	7473.3	8017.3	8492.0
50°	6062.0	6049.2	5897.9	5725.7	5566.4	5746.6	6113.5	6649.4	7161.2	7672.9	8097.7
52.5°	5371.7	5357.2	5233.3	5144.8	5109.4	5326.6	5778.8	6297.0	6783.0	7246.4	7656.8
55°	4723.1	4707.0	4621.8	4596.0	4689.3	4938.8	5434.4	5917.2	6361.4	6791.0	7153.1
57.5°	4118.1	4108.4	4065.0	4077.8	4259.7	4571.9	5054.6	5511.7	5914.0	6321.1	6625.3
60°	3554.8	3556.4	3558.0	3633.7	3857.4	4211.4	4670.0	5085.2	5466.6	5819.0	6045.9
62.5°	3065.6	3049.5	3089.8	3245.9	3490.5	3855.8	4277.4	4662.0	4990.3	5278.3	5445.7
65°	2582.8	2608.6	2661.7	2882.2	3157.3	3508.2	3904.0	4232.3	4507.5	4737.6	4866.4
67.5°	2170.9	2204.7	2277.1	2552.3	2856.4	3189.5	3535.5	3802.7	4031.2	4201.7	4304.7
70°	1821.7	1850.6	1955.2	2264.2	2586.1	2890.2	3170.2	3390.7	3570.9	3698.1	3757.6
72.5°	1496.6	1541.7	1704.2	2021.2	2352.7	2598.9	2822.6	3006.1	3142.9	3176.7	3229.8
75°	1202.1	1264.9	1478.9	1818.4	2106.5	2317.3	2505.6	2626.3	2692.3	2721.2	2782.4
77.5°	957.5	1021.9	1287.4	1636.6	1878.0	2056.6	2191.8	2261.0	2323.8	2359.2	2415.5
80°	740.3	812.7	1131.3	1435.4	1660.7	1797.5	1897.3	1958.5	2001.9	2034.1	2088.8
82.5°	556.8	653.4	978.4	1253.6	1441.9	1575.5	1641.4	1686.5	1713.8	1750.9	1795.9
85°	378.2	524.6	815.9	1063.7	1232.7	1340.5	1387.2	1419.4	1448.3	1483.7	1522.3
87.5°	233.3	402.3	669.4	869.0	1005.8	1094.3	1128.1	1149.0	1184.4	1224.6	1268.1
90°	99.8	289.7	489.2	642.1	732.2	775.7	809.5	812.7	843.2	859.3	899.6
92.5°	59.5	197.9	354.0	490.8	580.9	629.2	642.1	650.1	664.6	680.7	700.0
95°	77.2	157.7	275.2	375.0	452.2	495.6	510.1	524.6	532.7	545.5	563.2
97.5°	88.5	165.8	273.6	333.1	378.2	408.7	413.6	416.8	415.2	418.4	429.7
100°	106.2	186.7	312.2	350.8	366.9	357.3	347.6	339.6	329.9	323.5	325.1
102.5°	132.0	204.4	337.9	400.7	387.8	362.1	318.6	294.5	270.4	255.9	251.0
105°	152.9	214.0	355.6	452.2	428.1	375.0	331.5	286.4	247.8	217.2	201.2
107.5°	177.0	220.5	354.0	463.5	498.9	410.4	336.3	296.1	252.7	210.8	185.1
110°	223.7	238.2	350.8	453.8	515.0	461.9	376.6	297.7	249.4	222.1	189.9



TEST NUMBER: P236485

CATALOG NUMBER: SKB4-LD5-36-N-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°	257.5	243.0	358.9	436.1	511.7	498.9	424.8	342.8	262.3	207.6	194.7
115°	289.7	252.7	366.9	413.6	492.4	513.3	469.9	389.4	307.4	238.2	183.5
117.5°	326.7	268.7	378.2	394.3	460.2	506.9	469.9	449.0	352.4	280.0	223.7
120°	362.1	288.1	384.6	413.6	439.3	481.2	490.8	424.8	415.2	320.2	262.3
122.5°	397.5	309.0	387.8	450.6	413.6	442.5	474.7	463.5	379.8	378.2	297.7
125°	431.3	331.5	386.2	469.9	392.7	403.9	442.5	457.0	431.3	339.6	342.8
127.5°	465.1	354.0	384.6	473.1	413.6	400.7	403.9	434.5	431.3	402.3	312.2
130°	495.6	376.6	366.9	471.5	460.2	371.7	368.5	395.9	412.0	405.5	386.2
132.5°	516.6	400.7	355.6	463.5	486.0	368.5	375.0	355.6	379.8	387.8	383.0
135°	535.9	423.2	347.6	449.0	482.8	402.3	339.6	349.2	339.6	355.6	363.7
137.5°	545.5	447.4	344.4	431.3	473.1	450.6	334.7	349.2	304.1	318.6	331.5
140°	548.8	463.5	344.4	405.5	458.6	460.2	376.6	310.6	337.9	281.6	297.7
142.5°	547.1	474.7	347.6	365.3	436.1	450.6	426.5	323.5	302.5	326.7	262.3
145°	542.3	481.2	349.2	328.3	410.4	437.7	437.7	381.4	299.3	294.5	318.6
147.5°	537.5	484.4	358.9	312.2	384.6	420.0	431.3	421.6	354.0	286.4	278.4
150°	534.3	487.6	384.6	313.8	347.6	399.1	420.0	423.2	408.7	346.0	283.2
152.5°	526.2	490.8	410.4	323.5	309.0	376.6	403.9	415.2	418.4	403.9	358.9
155°	521.4	494.0	429.7	333.1	300.9	341.2	381.4	400.7	410.4	413.6	407.1
157.5°	521.4	498.9	440.9	360.5	309.0	292.9	357.3	378.2	394.3	403.9	408.7
160°	518.2	502.1	449.0	394.3	318.6	294.5	297.7	354.0	371.7	386.2	395.9
162.5°	513.3	503.7	457.0	421.6	352.4	304.1	286.4	291.3	344.4	362.1	375.0
165°	510.1	503.7	471.5	437.7	392.7	326.7	300.9	283.2	275.2	309.0	347.6
167.5°	506.9	502.1	481.2	449.0	428.1	379.8	328.3	299.3	284.8	270.4	265.5
170°	502.1	498.9	489.2	468.3	440.9	424.8	391.0	350.8	310.6	288.1	275.2
172.5°	498.9	497.3	492.4	482.8	465.1	440.9	432.9	418.4	386.2	360.5	329.9
175°	497.3	495.6	494.0	490.8	481.2	466.7	458.6	442.5	426.5	416.8	407.1
177.5°	495.6	494.0	494.0	492.4	489.2	479.6	477.9	468.3	458.6	449.0	437.7
180°	461.9	461.9	461.9	461.9	461.9	461.9	461.9	461.9	461.9	461.9	461.9



TEST NUMBER: P236485

CATALOG NUMBER: SKB4-LD5-36-N-UNV-L840-CD4-U all blades tilted out 20 degrees

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	17392.7	17392.7	17392.7	17392.7	17392.7	17392.7	17392.7	17392.7
2.5°	17310.7	17346.1	17323.6	17276.9	17299.4	17349.3	17338.0	17315.5
5°	16879.4	16868.1	16790.9	16729.7	16720.1	16742.6	16731.3	16704.0
7.5°	16415.9	16409.5	16361.2	16269.5	16277.5	16275.9	16255.0	16229.3
10°	15899.4	15851.1	15765.8	15682.1	15640.3	15630.6	15592.0	15555.0
12.5°	15143.0	14967.6	14755.2	14536.3	14439.8	14294.9	14216.1	14163.0
15°	13905.5	13577.2	13290.8	13009.2	12865.9	12717.9	12627.8	12573.1
17.5°	12642.2	12339.7	11993.7	11739.5	11612.3	11486.8	11411.2	11354.9
20°	11519.0	11232.5	10936.4	10699.9	10556.7	10413.4	10326.5	10262.2
22.5°	10527.7	10244.5	9930.7	9718.2	9620.1	9584.7	9573.4	9557.3
25°	9637.8	9431.8	9417.3	9481.7	9565.4	9620.1	9645.8	9645.8
27.5°	9209.7	9333.6	9446.3	9576.6	9724.7	9830.9	9880.8	9884.0
30°	9180.8	9380.3	9576.6	9818.0	10064.2	10252.5	10329.8	10350.7
32.5°	9212.9	9563.8	9906.5	10238.0	10529.3	10724.0	10804.5	10812.5
35°	9394.8	9851.8	10239.6	10542.2	10790.0	10944.5	11025.0	11042.7
37.5°	9576.6	10009.5	10329.8	10630.7	10859.2	10991.2	11050.7	11066.8
40°	9583.1	9990.2	10305.6	10579.2	10777.1	10867.2	10909.1	10920.4
42.5°	9464.0	9859.9	10157.6	10386.1	10567.9	10679.0	10724.0	10736.9
45°	9241.9	9608.8	9914.6	10154.4	10342.6	10447.2	10498.7	10508.4
47.5°	8894.3	9278.9	9594.3	9814.8	9932.3	9975.7	9925.8	9909.7
50°	8484.0	8834.8	9084.2	9240.3	9288.6	9283.7	9259.6	9266.0
52.5°	8002.8	8286.0	8467.9	8574.1	8622.3	8699.6	8733.4	8726.9
55°	7452.4	7653.6	7726.0	7764.6	7795.2	7867.6	7891.8	7880.5
57.5°	6837.7	6956.8	6980.9	6995.4	6958.4	6895.6	6824.8	6758.8
60°	6200.4	6269.6	6287.3	6276.1	6231.0	6153.8	6065.3	6034.7
62.5°	5556.7	5616.3	5635.6	5598.6	5531.0	5468.2	5402.2	5402.2
65°	4945.2	5017.6	5014.4	4956.5	4819.7	4726.4	4641.1	4625.0
67.5°	4369.1	4383.6	4330.5	4248.4	4132.5	4068.2	4002.2	3986.1
70°	3754.4	3757.6	3712.5	3643.3	3564.5	3525.9	3493.7	3472.8
72.5°	3241.0	3245.9	3216.9	3173.4	3144.5	3109.1	3088.1	3094.6
75°	2806.5	2827.4	2819.4	2804.9	2780.8	2751.8	2732.5	2719.6
77.5°	2441.2	2467.0	2471.8	2468.6	2450.9	2426.7	2407.4	2409.0
80°	2117.8	2145.1	2150.0	2150.0	2132.3	2108.1	2079.1	2085.6
82.5°	1812.0	1839.4	1852.2	1839.4	1828.1	1804.0	1784.7	1784.7
85°	1535.2	1559.4	1570.6	1562.6	1544.9	1524.0	1506.3	1506.3
87.5°	1293.8	1321.2	1342.1	1342.1	1334.1	1318.0	1308.3	1303.5
90°	872.2	893.1	910.8	907.6	886.7	886.7	860.9	872.2
92.5°	708.1	724.2	730.6	725.8	716.1	701.6	687.1	687.1
95°	576.1	589.0	598.6	598.6	592.2	582.5	576.1	571.3
97.5°	436.1	447.4	458.6	458.6	455.4	444.2	437.7	432.9
100°	326.7	333.1	337.9	337.9	334.7	325.1	320.2	317.0
102.5°	249.4	249.4	251.0	251.0	244.6	236.6	231.7	228.5
105°	193.1	191.5	189.9	186.7	180.2	175.4	170.6	165.8
107.5°	165.8	154.5	148.1	143.2	135.2	132.0	125.5	120.7
110°	164.1	151.3	138.4	125.5	114.3	107.8	99.8	94.9



TEST NUMBER: P236485

CATALOG NUMBER: SKB4-LD5-36-N-UNV-L840-CD4-U all blades tilted out 20 degrees

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	180.2	159.3	138.4	122.3	115.9	109.4	103.0	98.2
115°	160.9	157.7	152.9	141.6	132.0	120.7	109.4	103.0
117.5°	177.0	146.4	132.0	125.5	125.5	122.3	117.5	112.6
120°	217.2	181.8	151.3	130.3	119.1	109.4	99.8	94.9
122.5°	252.7	214.0	185.1	167.4	151.3	136.8	123.9	117.5
125°	286.4	246.2	218.9	197.9	181.8	169.0	156.1	148.1
127.5°	283.2	317.0	249.4	228.5	212.4	197.9	186.7	178.6
130°	304.1	262.3	267.1	302.5	249.4	230.1	217.2	210.8
132.5°	371.7	334.7	272.0	247.8	238.2	244.6	244.6	246.2
135°	365.3	358.9	352.4	328.3	276.8	252.7	235.0	226.9
137.5°	339.6	347.6	349.2	346.0	342.8	337.9	328.3	318.6
140°	305.8	317.0	325.1	331.5	334.7	329.9	323.5	318.6
142.5°	273.6	284.8	292.9	300.9	305.8	307.4	304.1	300.9
145°	280.0	249.4	262.3	268.7	273.6	273.6	275.2	270.4
147.5°	305.8	307.4	259.1	230.1	241.4	243.0	239.8	238.2
150°	265.5	280.0	302.5	307.4	296.1	257.5	236.6	226.9
152.5°	292.9	263.9	259.1	262.3	272.0	273.6	275.2	272.0
155°	379.8	334.7	291.3	260.7	246.2	239.8	230.1	225.3
157.5°	407.1	397.5	383.0	357.3	328.3	305.8	283.2	273.6
160°	402.3	408.7	408.7	405.5	397.5	384.6	373.3	365.3
162.5°	386.2	399.1	403.9	407.1	407.1	402.3	392.7	386.2
165°	358.9	375.0	384.6	394.3	400.7	399.1	391.0	383.0
167.5°	278.4	321.8	350.8	368.5	381.4	386.2	381.4	375.0
170°	268.7	263.9	263.9	272.0	280.0	291.3	292.9	296.1
172.5°	309.0	288.1	283.2	283.2	286.4	294.5	297.7	291.3
175°	397.5	383.0	375.0	370.1	370.1	384.6	389.4	379.8
177.5°	426.5	416.8	407.1	402.3	412.0	420.0	429.7	407.1
180°	461.9	461.9	461.9	461.9	461.9	461.9	461.9	461.9

(END OF REPORT)