

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: P236491

Luminaire Tested: **SKB4-LD5-24-N-UNV-L840-CD4-U inner 2 blades tilted out 20 degrees**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236491
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24060)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: SKB4-LD5-24-N-UNV-L840-CD4-U inner 2 blades tilted out 20 degrees
Description: METALUX SKYBAR LED WAVESTREAM LUMINAIRE
4 BLADES WITH NARROW DISTRIBUTION LENS, INNER 2 BLADES TILTED OUT 20
DEGREES
Light Source: (952) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

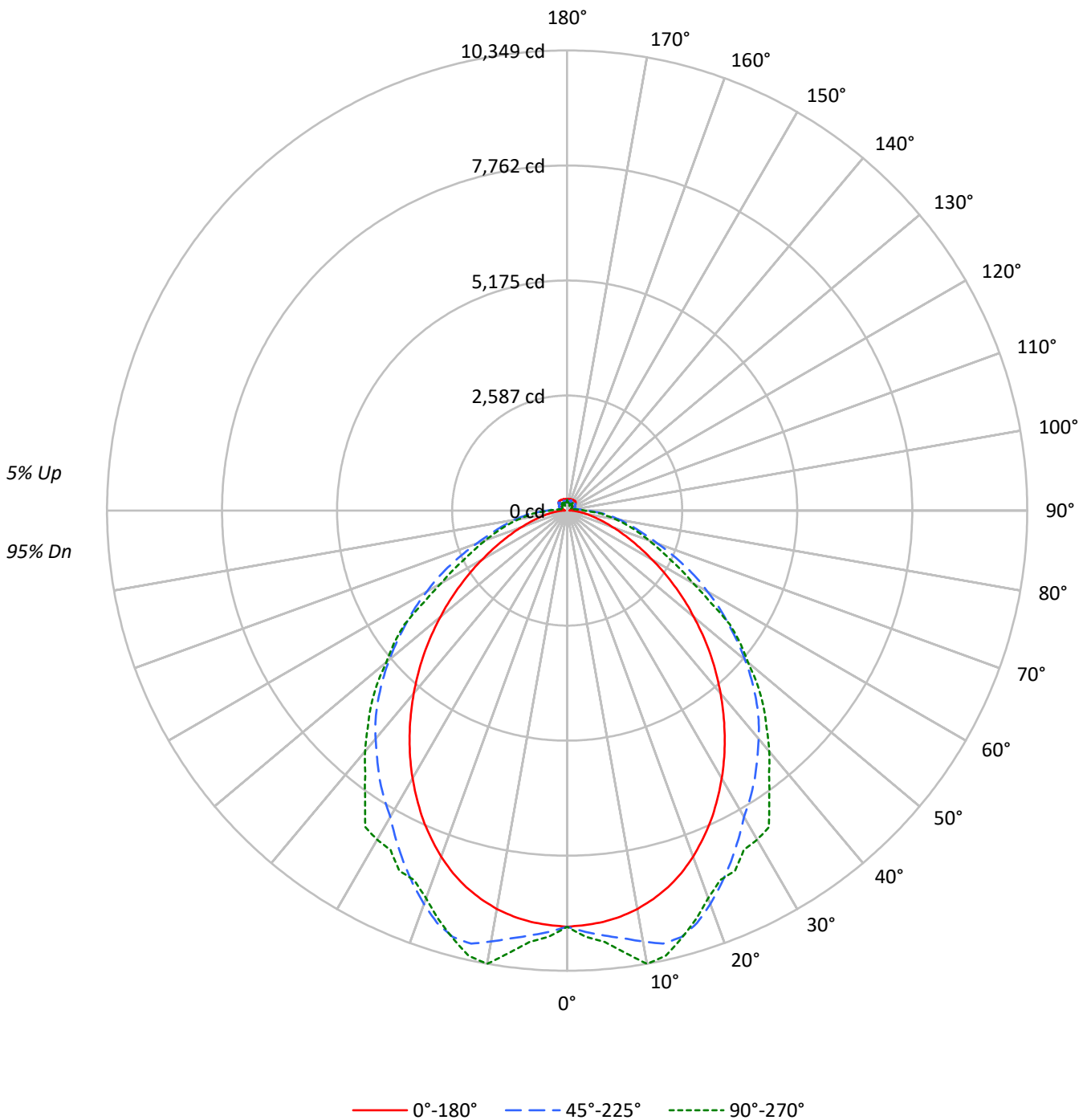
Lumens per Lamp: N/A
Luminaire Lumens: 26443.0 lumens
Efficiency: N/A
Efficacy: 128.2 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 1.34 / 1.36
Luminous Opening: Rectangular w/ Sides (W: 1.88' x L: 4' x H: 0.21')
CIE Type: Direct

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	118	118	118	118	114	114	114	114	108	108	108	103	103	103	97	97	97	95					95			
1	108	103	98	95	104	100	96	93	95	92	89	90	87	85	86	84	82	79					79			
2	98	90	83	78	95	88	82	76	83	78	74	79	75	71	76	72	69	67					67			
3	90	80	72	65	87	78	70	64	74	68	63	70	65	61	67	63	59	57					57			
4	82	71	62	56	80	69	61	55	66	59	54	63	57	52	60	55	51	49					49			
5	76	64	55	48	74	62	54	48	59	52	47	57	51	46	55	49	45	43					43			
6	70	57	49	42	68	56	48	42	54	47	41	52	45	41	50	44	40	38					38			
7	65	52	44	38	63	51	43	37	49	42	37	47	41	36	46	40	36	33					33			
8	61	48	39	34	59	47	39	33	45	38	33	43	37	32	42	36	32	30					30			
9	57	44	36	30	55	43	35	30	42	35	30	40	34	29	39	33	29	27					27			
10	53	41	33	28	52	40	32	27	39	32	27	37	31	27	36	30	26	25					25			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13433	13433	13433
5°	13317	13682	13895
10°	13138	14056	14792
15°	12847	14311	14362
20°	12414	13799	13617
25°	11857	13093	13454
30°	11188	12355	13308
35°	10441	11929	12880
40°	9636	11448	12123
45°	8773	10937	11412
50°	7813	10250	10465
55°	6847	9490	9645
60°	5812	8729	7892
65°	4885	7878	6891
70°	4018	6886	6287
75°	3282	6268	5873
80°	2754	6030	5550
85°	2310	5947	5524



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	921.3	3.5
10°-20°	2708.2	10.2
20°-30°	3949.7	14.9
30°-40°	4559.7	17.2
40°-50°	4414.9	16.7
50°-60°	3632.7	13.7
60°-70°	2511.1	9.5
70°-80°	1563.1	5.9
80°-90°	809.8	3.1
90°-100°	304.5	1.2
100°-110°	190.4	0.7
110°-120°	194.1	0.7
120°-130°	194.6	0.7
130°-140°	176.1	0.7
140°-150°	136.8	0.5
150°-160°	96.3	0.4
160°-170°	60.0	0.2
170°-180°	19.8	0.1
0°-30°	7579.1	28.7
0°-40°	12138.9	45.9
0°-60°	20186.5	76.3
0°-90°	25070.4	94.8
90°-120°	689.0	2.6
90°-150°	1196.5	4.5
90°-180°	1373.0	5.2
0°-180°	26443.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	9360	9360	9360	9360	9360	
5°	9286	9488	9593	9694	9739	880
15°	8767	9313	9929	9959	9954	2465
25°	7670	8531	8713	8776	8936	3521
35°	6176	6955	7359	7837	7923	3858
45°	4548	5180	6010	6291	6247	3503
55°	2940	3638	4418	4494	4466	2635
65°	1599	2399	2894	2699	2513	1597
75°	707	1511	1617	1603	1498	770
85°	224	834	838	819	762	226
90°	68	485	441	421	387	46
95°	62	316	294	281	257	51
105°	92	269	166	126	106	100
115°	157	316	198	129	105	157
125°	225	302	211	161	135	200
135°	270	277	210	182	152	208
145°	276	280	197	165	153	174
155°	270	211	227	162	117	125
165°	267	190	204	226	207	76
175°	260	245	202	174	179	25
180°	240	240	240	240	240	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	9359.6	9359.6	9359.6	9359.6	9359.6	9359.6	9359.6	9359.6	9359.6	9359.6	9359.6
2.5°	9329.6	9334.9	9373.5	9388.5	9409.9	9407.7	9432.4	9469.9	9455.9	9487.0	9490.2
5°	9285.7	9299.6	9357.4	9404.5	9469.9	9505.2	9544.8	9581.2	9565.2	9593.0	9607.0
7.5°	9209.6	9237.5	9323.1	9407.7	9481.6	9504.1	9551.3	9617.7	9635.9	9701.2	9746.2
10°	9098.2	9137.9	9255.7	9348.8	9420.6	9476.3	9572.7	9670.1	9731.2	9841.5	9927.2
12.5°	8947.2	8998.6	9149.6	9234.2	9347.8	9444.2	9578.0	9719.4	9834.0	9975.4	10058.9
15°	8767.3	8830.5	8992.2	9095.0	9252.4	9373.5	9554.5	9725.8	9829.7	9929.3	9966.8
17.5°	8548.8	8633.4	8799.4	8934.4	9107.9	9262.1	9464.5	9609.1	9691.6	9723.7	9707.6
20°	8282.1	8395.6	8563.8	8721.2	8920.4	9102.5	9300.6	9404.5	9418.5	9414.2	9404.5
22.5°	7985.4	8124.7	8295.0	8474.9	8700.9	8889.4	9068.2	9090.7	9088.6	9074.7	9066.1
25°	7669.5	7814.1	7991.9	8191.1	8444.9	8616.3	8731.9	8735.2	8733.0	8712.7	8691.2
27.5°	7315.0	7474.6	7669.5	7878.3	8136.5	8267.1	8346.4	8354.9	8351.7	8336.7	8326.0
30°	6954.1	7115.8	7298.9	7536.7	7774.5	7853.7	7939.4	7950.1	7941.5	7952.2	8074.3
32.5°	6572.8	6731.3	6923.0	7165.1	7365.3	7423.2	7514.2	7514.2	7520.6	7665.2	7795.9
35°	6176.5	6332.9	6522.4	6760.2	6917.6	6991.5	7074.0	7063.3	7212.2	7358.9	7477.8
37.5°	5776.0	5923.8	6106.9	6336.1	6462.5	6554.6	6610.3	6713.1	6880.2	7020.5	7176.8
40°	5367.9	5499.6	5680.6	5891.6	6010.5	6109.0	6179.7	6367.2	6524.6	6702.4	6862.0
42.5°	4959.8	5081.9	5246.9	5437.5	5566.0	5652.8	5819.9	5998.7	6190.4	6376.8	6508.5
45°	4547.5	4653.5	4812.0	4989.8	5126.9	5234.0	5449.3	5639.9	5850.9	6010.5	6134.7
47.5°	4132.0	4235.8	4376.1	4562.5	4693.2	4865.6	5069.1	5286.5	5481.4	5622.8	5750.2
50°	3716.4	3806.4	3949.9	4139.5	4277.6	4484.3	4695.3	4921.3	5089.4	5222.2	5328.3
52.5°	3331.9	3409.0	3539.7	3730.3	3895.3	4099.8	4332.2	4535.7	4694.2	4815.3	4928.8
55°	2939.9	3006.3	3150.9	3328.7	3538.6	3736.8	3975.6	4157.7	4301.2	4417.9	4522.9
57.5°	2571.5	2644.3	2785.7	2957.1	3190.5	3400.5	3623.2	3792.4	3924.2	4044.1	4107.3
60°	2207.4	2296.2	2447.3	2628.3	2863.9	3080.2	3284.8	3442.2	3567.5	3648.9	3701.4
62.5°	1882.8	1972.8	2130.2	2332.7	2568.3	2779.3	2966.7	3103.8	3200.2	3286.9	3316.9
65°	1599.0	1680.4	1841.1	2068.1	2298.4	2499.7	2671.1	2770.7	2851.0	2893.9	2884.2
67.5°	1331.3	1420.2	1585.1	1832.5	2057.4	2245.9	2377.6	2460.1	2507.2	2515.8	2489.0
70°	1094.6	1189.9	1365.5	1620.4	1843.2	2004.9	2105.6	2151.7	2159.2	2161.3	2152.7
72.5°	888.9	988.5	1182.4	1435.2	1650.4	1770.4	1845.3	1855.0	1870.0	1863.6	1876.4
75°	706.9	815.0	1028.2	1277.7	1460.9	1560.5	1592.6	1594.7	1600.1	1617.2	1635.4
77.5°	562.3	663.0	894.3	1134.2	1293.8	1360.2	1368.7	1379.5	1391.2	1404.1	1422.3
80°	431.6	538.7	779.7	990.7	1121.3	1172.8	1185.6	1194.2	1199.5	1207.0	1218.8
82.5°	319.2	438.0	666.2	851.5	961.8	1016.4	1017.5	1020.7	1026.0	1011.0	1015.3
85°	223.8	354.5	558.0	716.5	815.0	853.6	846.1	847.2	848.2	837.5	840.7
87.5°	145.7	279.5	452.0	579.4	656.5	683.3	667.2	657.6	641.5	597.6	583.7
90°	68.5	201.3	330.9	428.4	477.7	492.7	475.5	462.7	456.2	441.3	435.9
92.5°	51.4	141.4	245.3	327.7	380.2	398.4	388.8	378.1	369.5	360.9	358.8
95°	62.1	112.5	187.4	251.7	304.2	327.7	324.5	314.9	308.5	294.5	288.1
97.5°	64.3	120.0	182.1	220.6	252.8	276.3	273.1	261.3	250.6	236.7	228.1
100°	71.8	144.6	203.5	230.3	244.2	243.1	239.9	229.2	215.3	198.1	187.4
102.5°	82.5	163.9	233.5	254.9	258.1	249.5	226.0	209.9	193.9	177.8	163.9
105°	92.1	170.3	265.6	277.4	278.5	259.2	237.8	209.9	184.2	166.0	151.0
107.5°	106.0	174.6	276.3	302.0	293.5	277.4	244.2	217.4	194.9	169.2	147.8
110°	128.5	184.2	281.7	315.9	308.5	286.0	264.5	227.1	196.0	179.9	159.6



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CATALOG NUMBER: SKB4-LD5-24-N-UNV-L840-CD4-U inner 2 blades tilted out 20 degrees

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	142.4	183.1	281.7	323.4	330.9	290.2	272.0	247.4	209.9	178.9	161.7
115°	157.4	185.3	274.2	315.9	329.9	303.1	269.9	253.8	227.1	198.1	167.1
117.5°	173.5	187.4	272.0	307.4	323.4	339.5	275.2	250.6	231.3	212.1	187.4
120°	190.6	187.4	277.4	309.5	327.7	315.9	293.5	251.7	229.2	213.1	197.1
122.5°	208.8	188.5	290.2	318.1	315.9	299.9	325.6	264.5	229.2	211.0	197.1
125°	224.9	196.0	290.2	309.5	292.4	311.7	280.6	305.2	239.9	211.0	196.0
127.5°	239.9	204.6	286.0	306.3	291.3	304.2	272.0	293.5	265.6	220.6	197.1
130°	253.8	214.2	278.5	313.8	304.2	273.1	293.5	248.5	284.9	247.4	206.7
132.5°	263.5	218.5	266.7	330.9	298.8	256.0	287.0	252.8	227.1	271.0	238.8
135°	269.9	219.6	249.5	323.4	293.5	261.3	247.4	277.4	222.8	209.9	259.2
137.5°	275.2	220.6	229.2	306.3	298.8	264.5	226.0	263.5	257.0	201.3	192.8
140°	277.4	220.6	215.3	287.0	313.8	266.7	230.3	215.3	252.8	236.7	186.4
142.5°	277.4	221.7	207.8	264.5	298.8	266.7	238.8	204.6	208.8	238.8	228.1
145°	276.3	226.0	206.7	239.9	278.5	281.7	243.1	214.2	188.5	197.1	228.1
147.5°	275.2	232.4	205.6	211.0	258.1	277.4	249.5	229.2	200.3	178.9	184.2
150°	274.2	238.8	204.6	197.1	237.8	261.3	268.8	235.6	218.5	192.8	172.4
152.5°	272.0	244.2	204.6	196.0	218.5	244.2	258.1	258.1	229.2	215.3	190.6
155°	269.9	249.5	203.5	199.2	196.0	226.0	242.0	254.9	251.7	227.1	216.3
157.5°	269.9	254.9	204.6	199.2	188.5	204.6	226.0	238.8	249.5	251.7	230.3
160°	268.8	258.1	213.1	197.1	191.7	185.3	206.7	221.7	232.4	242.0	248.5
162.5°	267.8	260.3	223.8	198.1	192.8	184.2	183.1	202.4	214.2	222.8	230.3
165°	266.7	261.3	237.8	204.6	192.8	187.4	182.1	178.9	188.5	203.5	211.0
167.5°	264.5	261.3	246.3	219.6	199.2	188.5	184.2	179.9	173.5	174.6	181.0
170°	262.4	261.3	252.8	238.8	216.3	198.1	187.4	183.1	178.9	174.6	168.1
172.5°	261.3	260.3	256.0	249.5	238.8	220.6	207.8	193.9	182.1	178.9	174.6
175°	260.3	259.2	257.0	254.9	248.5	242.0	235.6	224.9	212.1	202.4	193.9
177.5°	259.2	258.1	257.0	257.0	254.9	250.6	248.5	243.1	236.7	232.4	226.0
180°	239.9	239.9	239.9	239.9	239.9	239.9	239.9	239.9	239.9	239.9	239.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	9359.6	9359.6	9359.6	9359.6	9359.6	9359.6	9359.6	9359.6
2.5°	9507.3	9539.5	9574.8	9547.0	9573.8	9594.1	9588.7	9595.2
5°	9620.9	9664.8	9702.3	9685.1	9713.0	9732.3	9725.8	9738.7
7.5°	9799.7	9866.1	9932.5	9943.3	9992.5	10034.3	10032.1	10034.3
10°	10031.1	10130.7	10220.6	10244.2	10305.3	10340.6	10338.5	10349.2
12.5°	10130.7	10204.6	10241.0	10229.2	10263.5	10267.8	10245.3	10252.8
15°	9971.1	9993.6	9976.5	9942.2	9967.9	9958.2	9941.1	9954.0
17.5°	9687.3	9693.7	9659.4	9620.9	9642.3	9642.3	9618.7	9632.7
20°	9367.0	9367.0	9330.6	9306.0	9309.2	9299.6	9267.4	9276.0
22.5°	9029.7	9007.2	8978.3	8949.4	8972.9	8977.2	8976.1	8992.2
25°	8659.1	8662.3	8740.5	8812.3	8883.0	8905.4	8897.9	8936.5
27.5°	8411.7	8497.4	8562.7	8570.2	8592.7	8584.1	8575.6	8602.3
30°	8173.9	8239.3	8300.3	8343.2	8416.0	8470.6	8511.3	8545.6
32.5°	7892.3	7984.4	8103.3	8190.0	8290.7	8356.0	8395.6	8442.8
35°	7591.3	7702.7	7819.4	7853.7	7896.6	7899.8	7885.8	7923.3
37.5°	7296.8	7392.1	7453.2	7469.2	7478.9	7460.7	7432.8	7459.6
40°	6968.0	7051.5	7112.6	7100.8	7095.4	7064.4	7043.0	7074.0
42.5°	6625.3	6681.0	6704.5	6669.2	6645.6	6627.4	6622.1	6642.4
45°	6240.8	6278.3	6302.9	6278.3	6263.3	6246.1	6233.3	6247.2
47.5°	5823.1	5864.8	5883.1	5862.7	5848.8	5823.1	5797.4	5812.4
50°	5415.0	5448.2	5453.6	5434.3	5379.7	5329.3	5288.6	5307.9
52.5°	4999.5	4997.3	4978.1	4945.9	4912.7	4896.7	4894.5	4909.5
55°	4565.7	4538.9	4512.2	4475.7	4451.1	4439.3	4449.0	4466.1
57.5°	4125.5	4098.8	4069.8	3994.9	3919.9	3849.2	3803.2	3792.4
60°	3720.7	3655.4	3580.4	3488.3	3411.2	3338.3	3277.3	3278.4
62.5°	3263.4	3186.3	3123.1	3050.2	2975.3	2916.4	2884.2	2879.9
65°	2835.0	2775.0	2731.1	2666.8	2601.5	2551.1	2521.2	2512.6
67.5°	2459.0	2423.7	2401.2	2358.4	2296.2	2251.3	2225.6	2219.1
70°	2150.6	2121.7	2104.5	2067.0	2015.6	1980.3	1959.9	1955.7
72.5°	1880.7	1863.6	1857.1	1820.7	1783.2	1744.7	1724.3	1719.0
75°	1649.4	1630.1	1616.2	1590.4	1553.0	1524.0	1509.1	1498.3
77.5°	1426.6	1409.4	1399.8	1378.4	1349.5	1322.7	1305.6	1294.9
80°	1219.9	1201.7	1193.1	1172.8	1143.8	1116.0	1105.3	1094.6
82.5°	1012.1	996.0	989.6	974.6	953.2	932.8	918.9	909.3
85°	840.7	826.8	823.6	814.0	795.8	780.8	769.0	761.5
87.5°	573.0	567.6	566.6	558.0	545.1	532.3	521.6	515.2
90°	432.7	423.0	423.0	418.8	409.1	399.5	392.0	386.6
92.5°	357.7	354.5	354.5	348.1	339.5	330.9	322.4	317.0
95°	283.8	280.6	282.7	279.5	273.1	267.8	261.3	257.0
97.5°	222.8	219.6	222.8	220.6	215.3	209.9	204.6	199.2
100°	179.9	175.6	175.6	172.4	168.1	161.7	157.4	153.2
102.5°	154.2	147.8	144.6	141.4	136.0	130.7	126.4	122.1
105°	139.2	132.8	128.5	124.2	118.9	114.6	110.3	106.0
107.5°	132.8	124.2	118.9	114.6	109.2	105.0	99.6	96.4
110°	138.2	125.3	116.7	111.4	105.0	100.7	95.3	92.1



TEST NUMBER: P236491

CATALOG NUMBER: SKB4-LD5-24-N-UNV-L840-CD4-U inner 2 blades tilted out 20 degrees

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	148.9	137.1	124.2	114.6	109.2	103.9	98.5	95.3
115°	144.6	134.9	132.8	125.3	121.0	114.6	108.2	105.0
117.5°	160.7	139.2	126.4	118.9	115.7	113.5	110.3	107.1
120°	176.7	158.5	142.4	131.7	122.1	114.6	108.2	103.9
122.5°	183.1	168.1	156.4	147.8	141.4	133.9	126.4	122.1
125°	183.1	171.4	163.9	157.4	151.0	145.7	139.2	134.9
127.5°	185.3	175.6	168.1	160.7	155.3	149.9	144.6	141.4
130°	187.4	178.9	172.4	167.1	160.7	154.2	148.9	144.6
132.5°	199.2	184.2	175.6	170.3	166.0	159.6	154.2	149.9
135°	246.3	201.3	186.4	176.7	169.2	162.8	156.4	152.1
137.5°	245.3	253.8	228.1	193.9	181.0	172.4	164.9	160.7
140°	177.8	218.5	243.1	246.3	238.8	218.5	204.6	194.9
142.5°	177.8	171.4	170.3	203.5	230.3	233.5	231.3	229.2
145°	226.0	197.1	167.1	162.8	159.6	157.4	157.4	153.2
147.5°	216.3	222.8	221.7	198.1	177.8	158.5	154.2	153.2
150°	170.3	189.6	215.3	222.8	222.8	219.6	216.3	216.3
152.5°	168.1	161.7	166.0	175.6	190.6	196.0	201.3	192.8
155°	196.0	178.9	166.0	157.4	151.0	146.7	129.6	116.7
157.5°	218.5	209.9	198.1	187.4	175.6	155.3	138.2	133.9
160°	243.1	229.2	219.6	213.1	202.4	184.2	176.7	173.5
162.5°	236.7	242.0	239.9	233.5	211.0	200.3	193.9	189.6
165°	217.4	222.8	226.0	226.0	223.8	216.3	211.0	206.7
167.5°	194.9	203.5	209.9	212.1	218.5	216.3	207.8	203.5
170°	166.0	169.2	175.6	184.2	190.6	200.3	198.1	193.9
172.5°	170.3	168.1	170.3	172.4	174.6	179.9	179.9	177.8
175°	186.4	179.9	175.6	172.4	173.5	178.9	183.1	178.9
177.5°	219.6	214.2	206.7	202.4	203.5	205.6	211.0	196.0
180°	239.9	239.9	239.9	239.9	239.9	239.9	239.9	239.9

(END OF REPORT)