

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: P236480

Luminaire Tested: **SKB4-LD5-24-N-UNV-L850-CD4-U all blades tilted out 20 degrees**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236480
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-LD5-24-N-UNV-L850-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) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

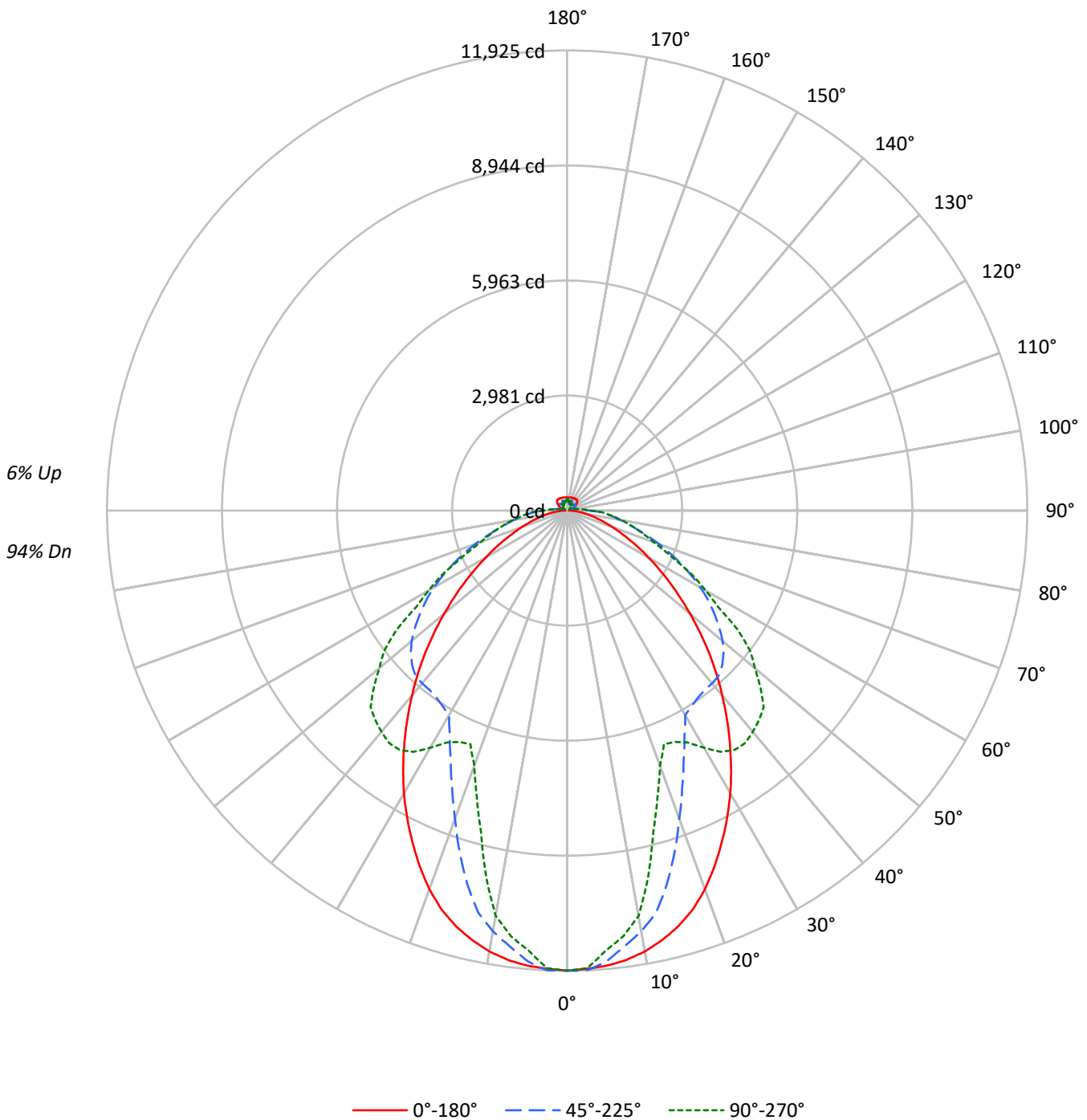
Lumens per Lamp: N/A
Luminaire Lumens: 27148.0 lumens
Efficiency: N/A
Efficacy: 131.7 lumens/watt
Spacing Criteria (0/90/45): 1.08 / 0.71 / 1.1
Luminous Opening: Rectangular w/ Sides (W: 1.88' x L: 4' x H: 0.21')
CIE Type: Direct

Input Watts (W): 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	0	
RCR																						
0	118	118	118	118	114	114	114	114	108	108	108	102	102	102	97	97	97	94				
1	107	102	98	94	104	99	95	91	94	91	88	89	86	84	85	82	80	78				
2	97	89	82	76	94	87	80	75	82	77	72	78	74	70	74	71	68	65				
3	89	78	70	64	86	76	69	63	73	66	61	69	64	59	66	61	58	55				
4	82	70	61	54	79	68	60	54	65	58	52	62	56	51	59	54	50	47				
5	75	62	54	47	73	61	53	46	58	51	45	56	49	44	53	48	43	41				
6	70	56	48	41	67	55	47	41	53	45	40	51	44	39	49	43	38	36				
7	65	51	43	37	63	50	42	36	48	41	36	46	40	35	44	39	34	32				
8	60	47	39	33	58	46	38	32	44	37	32	43	36	31	41	35	31	29				
9	56	43	35	30	55	42	35	29	41	34	29	39	33	29	38	32	28	26				
10	53	40	32	27	51	39	32	27	38	31	26	37	30	26	35	30	26	24				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17111	17111	17111
5°	16977	16723	16338
10°	16751	15814	15241
15°	16335	14422	12436
20°	15644	12457	10327
25°	14662	10734	9955
30°	13604	9511	11050
35°	12423	9587	12305
40°	11230	9983	12829
45°	10011	10334	13159
50°	8736	10324	12524
55°	7540	10000	11666
60°	6416	9543	9958
65°	5408	8841	8695
70°	4584	8077	7653
75°	3826	7230	7308
80°	3237	6966	7249
85°	2675	7222	7490



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1098.3	4.0
10°-20°	2776.8	10.2
20°-30°	3543.5	13.1
30°-40°	4214.6	15.5
40°-50°	4482.1	16.5
50°-60°	3927.5	14.5
60°-70°	2830.9	10.4
70°-80°	1782.6	6.6
80°-90°	995.4	3.7
90°-100°	381.5	1.4
100°-110°	191.6	0.7
110°-120°	180.5	0.7
120°-130°	195.4	0.7
130°-140°	188.8	0.7
140°-150°	146.5	0.5
150°-160°	113.0	0.4
160°-170°	73.2	0.3
170°-180°	25.8	0.1
0°-30°	7418.5	27.3
0°-40°	11633.1	42.9
0°-60°	20042.8	73.8
0°-90°	25651.7	94.5
90°-120°	753.7	2.8
90°-150°	1284.4	4.7
90°-180°	1496.0	5.5
0°-180°	27148.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	11923	11923	11923	11923	11923	
5°	11838	11891	11725	11489	11451	###
15°	11147	10809	10007	9014	8619	3129
25°	9484	8767	7143	6478	6612	4358
35°	7349	6426	5914	7123	7570	4592
45°	5189	4554	5679	6879	7204	4000
55°	3238	3300	4655	5309	5402	2910
65°	1770	2285	3248	3418	3170	1780
75°	824	1516	1865	1928	1864	892
85°	259	882	1017	1074	1032	265
90°	68	517	589	623	598	46
95°	53	325	374	410	392	46
105°	105	275	149	129	114	113
115°	199	345	163	101	71	198
125°	296	273	233	143	102	264
135°	367	303	244	233	156	281
145°	372	291	202	182	185	234
155°	357	220	284	189	154	166
165°	350	247	212	267	262	99
175°	341	325	286	255	260	33
180°	317	317	317	317	317	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	11922.8	11922.8	11922.8	11922.8	11922.8	11922.8	11922.8	11922.8	11922.8	11922.8	11922.8
2.5°	11883.1	11929.4	11958.1	11995.6	11977.9	11929.4	11933.8	11959.2	11918.4	11925.0	11884.2
5°	11837.8	11885.3	11909.6	11942.6	11921.7	11861.0	11841.2	11833.4	11752.9	11725.3	11627.1
7.5°	11745.2	11791.5	11810.3	11833.4	11773.9	11662.4	11590.7	11532.3	11428.6	11386.7	11297.3
10°	11599.6	11640.4	11647.0	11628.3	11522.4	11381.1	11290.7	11233.3	11125.2	11072.3	10963.1
12.5°	11396.6	11428.6	11406.5	11362.4	11232.2	11082.2	10992.8	10888.0	10753.5	10666.3	10496.4
15°	11147.3	11160.5	11104.3	11046.9	10899.1	10719.3	10586.9	10424.7	10216.2	10006.6	9737.5
17.5°	10831.8	10831.8	10755.7	10684.0	10496.4	10257.0	10064.0	9813.6	9535.6	9270.8	8923.3
20°	10436.9	10436.9	10348.6	10260.4	10008.8	9723.1	9478.2	9171.5	8824.1	8498.6	8142.3
22.5°	9983.5	9997.8	9905.1	9771.7	9482.6	9164.9	8896.9	8494.2	8109.2	7788.2	7447.3
25°	9483.7	9493.7	9398.8	9248.8	8942.1	8592.4	8246.0	7822.4	7444.0	7142.9	6836.2
27.5°	8980.7	8990.6	8886.9	8709.3	8378.4	7992.3	7616.1	7193.6	6861.6	6581.4	6304.5
30°	8455.6	8457.8	8329.8	8155.6	7801.4	7372.3	7013.8	6644.2	6332.1	6121.4	6176.5
32.5°	7907.3	7911.8	7792.6	7591.8	7213.5	6782.1	6469.9	6140.1	5904.0	6007.7	6133.5
35°	7349.2	7346.9	7239.9	7021.5	6620.0	6232.8	5980.1	5682.3	5760.6	5914.0	6126.9
37.5°	6798.7	6793.2	6686.2	6453.4	6058.5	5736.4	5495.9	5470.5	5618.3	5855.5	6198.6
40°	6255.9	6255.9	6132.4	5887.5	5533.4	5286.3	5136.2	5287.4	5487.0	5844.5	6237.2
42.5°	5719.8	5709.9	5584.1	5339.2	5055.7	4841.7	4912.3	5096.5	5394.4	5810.3	6165.5
45°	5189.2	5170.4	5048.0	4827.4	4620.0	4488.7	4671.8	4920.0	5289.6	5679.0	6021.0
47.5°	4661.9	4648.7	4532.8	4355.2	4203.0	4226.1	4418.1	4749.0	5123.0	5495.9	5821.3
50°	4155.5	4146.7	4043.0	3925.0	3815.8	3939.3	4190.8	4558.2	4909.0	5259.8	5551.0
52.5°	3682.3	3672.4	3587.4	3526.8	3502.5	3651.4	3961.4	4316.6	4649.8	4967.5	5248.8
55°	3237.7	3226.7	3168.2	3150.6	3214.6	3385.6	3725.3	4056.3	4360.7	4655.3	4903.5
57.5°	2822.9	2816.3	2786.5	2795.4	2920.0	3134.0	3465.0	3778.3	4054.1	4333.2	4541.6
60°	2436.8	2438.0	2439.1	2490.9	2644.2	2886.9	3201.3	3485.9	3747.4	3989.0	4144.5
62.5°	2101.5	2090.5	2118.0	2225.0	2392.7	2643.1	2932.2	3195.8	3420.9	3618.3	3733.0
65°	1770.5	1788.2	1824.6	1975.7	2164.4	2404.9	2676.2	2901.3	3089.9	3247.7	3335.9
67.5°	1488.1	1511.3	1561.0	1749.6	1958.1	2186.4	2423.6	2606.7	2763.4	2880.3	2950.9
70°	1248.8	1268.6	1340.3	1552.1	1772.8	1981.2	2173.2	2324.3	2447.9	2535.0	2575.8
72.5°	1025.9	1056.8	1168.2	1385.6	1612.8	1781.6	1934.9	2060.7	2154.4	2177.6	2214.0
75°	824.0	867.1	1013.8	1246.6	1444.0	1588.5	1717.6	1800.3	1845.6	1865.4	1907.3
77.5°	656.4	700.5	882.5	1121.9	1287.4	1409.8	1502.5	1549.9	1592.9	1617.2	1655.8
80°	507.4	557.1	775.5	984.0	1138.4	1232.2	1300.6	1342.5	1372.3	1394.4	1431.9
82.5°	381.7	447.9	670.7	859.3	988.4	1080.0	1125.2	1156.1	1174.8	1200.2	1231.1
85°	259.2	359.6	559.3	729.2	845.0	918.9	950.9	973.0	992.8	1017.1	1043.6
87.5°	160.0	275.8	458.9	595.7	689.5	750.1	773.3	787.6	811.9	839.5	869.3
90°	68.4	198.6	335.4	440.2	501.9	531.7	554.9	557.1	578.0	589.1	616.7
92.5°	40.8	135.7	242.7	336.5	398.2	431.3	440.2	445.7	455.6	466.6	479.9
95°	53.0	108.1	188.6	257.0	310.0	339.8	349.7	359.6	365.1	374.0	386.1
97.5°	60.7	113.6	187.5	228.4	259.2	280.2	283.5	285.7	284.6	286.8	294.5
100°	72.8	128.0	214.0	240.5	251.5	244.9	238.3	232.8	226.1	221.7	222.8
102.5°	90.5	140.1	231.7	274.7	265.9	248.2	218.4	201.9	185.3	175.4	172.1
105°	104.8	146.7	243.8	310.0	293.4	257.0	227.2	196.4	169.9	148.9	137.9
107.5°	121.3	151.1	242.7	317.7	342.0	281.3	230.6	203.0	173.2	144.5	126.9
110°	153.3	163.3	240.5	311.1	353.0	316.6	258.1	204.1	171.0	152.2	130.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	176.5	166.6	246.0	299.0	350.8	342.0	291.2	235.0	179.8	142.3	133.5
115°	198.6	173.2	251.5	283.5	337.6	351.9	322.1	267.0	210.7	163.3	125.8
117.5°	223.9	184.2	259.2	270.3	315.5	347.5	322.1	307.8	241.6	191.9	153.3
120°	248.2	197.5	263.7	283.5	301.2	329.8	336.5	291.2	284.6	219.5	179.8
122.5°	272.5	211.8	265.9	308.9	283.5	303.4	325.4	317.7	260.3	259.2	204.1
125°	295.6	227.2	264.8	322.1	269.2	276.9	303.4	313.3	295.6	232.8	235.0
127.5°	318.8	242.7	263.7	324.3	283.5	274.7	276.9	297.8	295.6	275.8	214.0
130°	339.8	258.1	251.5	323.2	315.5	254.8	252.6	271.4	282.4	278.0	264.8
132.5°	354.1	274.7	243.8	317.7	333.1	252.6	257.0	243.8	260.3	265.9	262.5
135°	367.3	290.1	238.3	307.8	330.9	275.8	232.8	239.4	232.8	243.8	249.3
137.5°	374.0	306.7	236.1	295.6	324.3	308.9	229.5	239.4	208.5	218.4	227.2
140°	376.2	317.7	236.1	278.0	314.4	315.5	258.1	212.9	231.7	193.1	204.1
142.5°	375.1	325.4	238.3	250.4	299.0	308.9	292.3	221.7	207.4	223.9	179.8
145°	371.8	329.8	239.4	225.0	281.3	300.1	300.1	261.4	205.2	201.9	218.4
147.5°	368.5	332.0	246.0	214.0	263.7	287.9	295.6	289.0	242.7	196.4	190.8
150°	366.2	334.3	263.7	215.1	238.3	273.6	287.9	290.1	280.2	237.2	194.2
152.5°	360.7	336.5	281.3	221.7	211.8	258.1	276.9	284.6	286.8	276.9	246.0
155°	357.4	338.7	294.5	228.4	206.3	233.9	261.4	274.7	281.3	283.5	279.1
157.5°	357.4	342.0	302.3	247.1	211.8	200.8	244.9	259.2	270.3	276.9	280.2
160°	355.2	344.2	307.8	270.3	218.4	201.9	204.1	242.7	254.8	264.8	271.4
162.5°	351.9	345.3	313.3	289.0	241.6	208.5	196.4	199.7	236.1	248.2	257.0
165°	349.7	345.3	323.2	300.1	269.2	223.9	206.3	194.2	188.6	211.8	238.3
167.5°	347.5	344.2	329.8	307.8	293.4	260.3	225.0	205.2	195.3	185.3	182.0
170°	344.2	342.0	335.4	321.0	302.3	291.2	268.1	240.5	212.9	197.5	188.6
172.5°	342.0	340.9	337.6	330.9	318.8	302.3	296.7	286.8	264.8	247.1	226.1
175°	340.9	339.8	338.7	336.5	329.8	319.9	314.4	303.4	292.3	285.7	279.1
177.5°	339.8	338.7	338.7	337.6	335.4	328.7	327.6	321.0	314.4	307.8	300.1
180°	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	11922.8	11922.8	11922.8	11922.8	11922.8	11922.8	11922.8	11922.8
2.5°	11866.5	11890.8	11875.4	11843.4	11858.8	11893.0	11885.3	11869.8
5°	11570.9	11563.2	11510.2	11468.3	11461.7	11477.1	11469.4	11450.6
7.5°	11253.2	11248.8	11215.7	11152.8	11158.3	11157.2	11142.9	11125.2
10°	10899.1	10866.0	10807.5	10750.1	10721.5	10714.8	10688.4	10663.0
12.5°	10380.6	10260.4	10114.7	9964.7	9898.5	9799.2	9745.2	9708.8
15°	9532.3	9307.2	9110.9	8917.8	8819.6	8718.2	8656.4	8618.9
17.5°	8666.3	8458.9	8221.7	8047.4	7960.3	7874.2	7822.4	7783.8
20°	7896.3	7700.0	7497.0	7334.8	7236.6	7138.5	7078.9	7034.8
22.5°	7216.8	7022.6	6807.5	6661.9	6594.6	6570.3	6562.6	6551.6
25°	6606.7	6465.5	6455.6	6499.7	6557.1	6594.6	6612.3	6612.3
27.5°	6313.3	6398.2	6475.5	6564.8	6666.3	6739.1	6773.3	6775.5
30°	6293.4	6430.2	6564.8	6730.3	6899.1	7028.1	7081.1	7095.4
32.5°	6315.5	6556.0	6791.0	7018.2	7217.9	7351.4	7406.5	7412.0
35°	6440.2	6753.5	7019.3	7226.7	7396.6	7502.5	7557.6	7569.8
37.5°	6564.8	6861.6	7081.1	7287.4	7444.0	7534.5	7575.3	7586.3
40°	6569.2	6848.3	7064.5	7252.1	7387.8	7449.5	7478.2	7485.9
42.5°	6487.6	6759.0	6963.1	7119.7	7244.4	7320.5	7351.4	7360.2
45°	6335.4	6586.9	6796.5	6960.8	7089.9	7161.6	7196.9	7203.5
47.5°	6097.1	6360.7	6577.0	6728.1	6808.6	6838.4	6804.2	6793.2
50°	5815.8	6056.3	6227.3	6334.3	6367.4	6364.0	6347.5	6351.9
52.5°	5485.9	5680.1	5804.7	5877.6	5910.7	5963.6	5986.8	5982.4
55°	5108.7	5246.6	5296.2	5322.7	5343.6	5393.3	5409.8	5402.1
57.5°	4687.3	4768.9	4785.4	4795.4	4770.0	4727.0	4678.4	4633.2
60°	4250.4	4297.9	4310.0	4302.3	4271.4	4218.4	4157.8	4136.8
62.5°	3809.2	3850.0	3863.2	3837.8	3791.5	3748.5	3703.3	3703.3
65°	3390.0	3439.6	3437.4	3397.7	3303.9	3239.9	3181.5	3170.4
67.5°	2995.0	3005.0	2968.6	2912.3	2832.9	2788.8	2743.5	2732.5
70°	2573.6	2575.8	2545.0	2497.5	2443.5	2417.0	2394.9	2380.6
72.5°	2221.7	2225.0	2205.2	2175.4	2155.5	2131.3	2116.9	2121.3
75°	1923.9	1938.2	1932.7	1922.8	1906.2	1886.4	1873.1	1864.3
77.5°	1673.5	1691.1	1694.4	1692.2	1680.1	1663.5	1650.3	1651.4
80°	1451.7	1470.5	1473.8	1473.8	1461.7	1445.1	1425.3	1429.7
82.5°	1242.1	1260.9	1269.7	1260.9	1253.2	1236.6	1223.4	1223.4
85°	1052.4	1068.9	1076.7	1071.2	1059.0	1044.7	1032.5	1032.5
87.5°	886.9	905.7	920.0	920.0	914.5	903.5	896.9	893.5
90°	597.9	612.2	624.4	622.2	607.8	607.8	590.2	597.9
92.5°	485.4	496.4	500.8	497.5	490.9	481.0	471.0	471.0
95°	394.9	403.8	410.4	410.4	406.0	399.3	394.9	391.6
97.5°	299.0	306.7	314.4	314.4	312.2	304.5	300.1	296.7
100°	223.9	228.4	231.7	231.7	229.5	222.8	219.5	217.3
102.5°	171.0	171.0	172.1	172.1	167.7	162.2	158.9	156.6
105°	132.4	131.3	130.2	128.0	123.6	120.2	116.9	113.6
107.5°	113.6	105.9	101.5	98.2	92.7	90.5	86.0	82.7
110°	112.5	103.7	94.9	86.0	78.3	73.9	68.4	65.1



TEST NUMBER: P236480

CATALOG NUMBER: SKB4-LD5-24-N-UNV-L850-CD4-U all blades tilted out 20 degrees

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	123.6	109.2	94.9	83.8	79.4	75.0	70.6	67.3
115°	110.3	108.1	104.8	97.1	90.5	82.7	75.0	70.6
117.5°	121.3	100.4	90.5	86.0	86.0	83.8	80.5	77.2
120°	148.9	124.7	103.7	89.4	81.6	75.0	68.4	65.1
122.5°	173.2	146.7	126.9	114.7	103.7	93.8	84.9	80.5
125°	196.4	168.8	150.0	135.7	124.7	115.8	107.0	101.5
127.5°	194.2	217.3	171.0	156.6	145.6	135.7	128.0	122.4
130°	208.5	179.8	183.1	207.4	171.0	157.7	148.9	144.5
132.5°	254.8	229.5	186.4	169.9	163.3	167.7	167.7	168.8
135°	250.4	246.0	241.6	225.0	189.7	173.2	161.1	155.5
137.5°	232.8	238.3	239.4	237.2	235.0	231.7	225.0	218.4
140°	209.6	217.3	222.8	227.2	229.5	226.1	221.7	218.4
142.5°	187.5	195.3	200.8	206.3	209.6	210.7	208.5	206.3
145°	191.9	171.0	179.8	184.2	187.5	187.5	188.6	185.3
147.5°	209.6	210.7	177.6	157.7	165.5	166.6	164.4	163.3
150°	182.0	191.9	207.4	210.7	203.0	176.5	162.2	155.5
152.5°	200.8	180.9	177.6	179.8	186.4	187.5	188.6	186.4
155°	260.3	229.5	199.7	178.7	168.8	164.4	157.7	154.4
157.5°	279.1	272.5	262.5	244.9	225.0	209.6	194.2	187.5
160°	275.8	280.2	280.2	278.0	272.5	263.7	255.9	250.4
162.5°	264.8	273.6	276.9	279.1	279.1	275.8	269.2	264.8
165°	246.0	257.0	263.7	270.3	274.7	273.6	268.1	262.5
167.5°	190.8	220.6	240.5	252.6	261.4	264.8	261.4	257.0
170°	184.2	180.9	180.9	186.4	191.9	199.7	200.8	203.0
172.5°	211.8	197.5	194.2	194.2	196.4	201.9	204.1	199.7
175°	272.5	262.5	257.0	253.7	253.7	263.7	267.0	260.3
177.5°	292.3	285.7	279.1	275.8	282.4	287.9	294.5	279.1
180°	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6

(END OF REPORT)