

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: P236468

Luminaire Tested: **SKB4-LD5-24-N-UNV-L850-CD4-U all blades horizontal**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236468
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24056)
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 horizontal
Description: METALUX SKYBAR LED WAVESTREAM LUMINAIRE
4 BLADES WITH NARROW DISTRIBUTION LENS, ALL BLADES HORIZONTAL
Light Source: (952) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

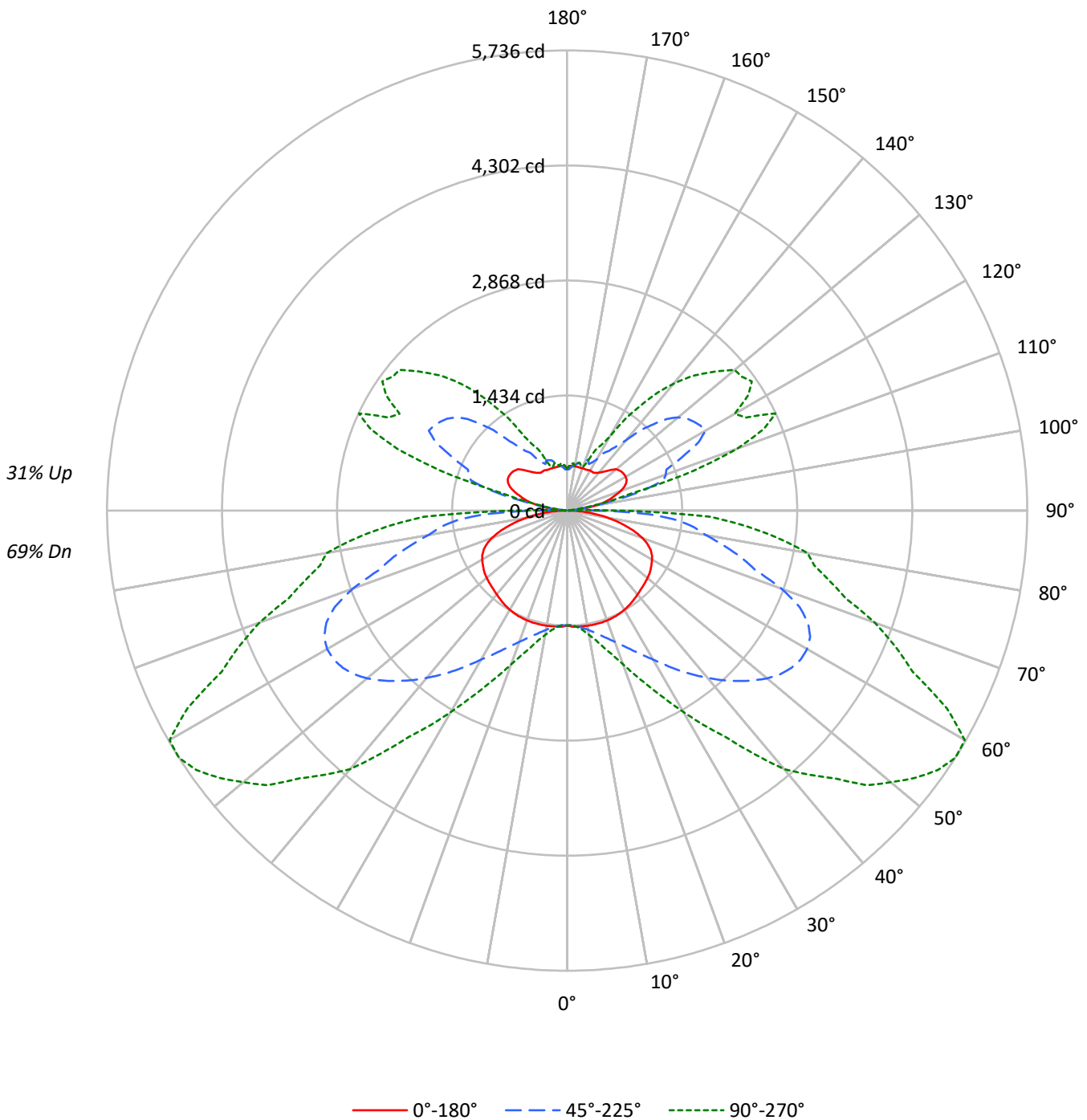
Lumens per Lamp: N/A
Luminaire Lumens: 21911.0 lumens
Efficiency: N/A
Efficacy: 106.3 lumens/watt
Spacing Criteria (0/90/45): 1.49 / 3.46 / 2.71
Luminous Opening: Rectangular (W 1.88' x L: 4' x H: 0')
CIE Type: Semi-Direct

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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CATALOG NUMBER: SKB4-LD5-24-N-UNV-L850-CD4-U all blades horizontal

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	112	112	112	112	106	106	106	106	94	94	94	84	84	84	74	74	74	69
1	98	92	87	82	92	87	82	77	77	73	69	68	65	62	59	57	55	50
2	87	77	69	62	81	73	65	59	64	58	53	56	51	47	49	45	42	38
3	78	66	56	49	73	62	53	46	54	47	42	47	42	37	41	37	33	29
4	70	57	47	39	65	53	44	37	47	39	33	41	35	30	35	30	26	23
5	64	49	40	32	59	47	37	31	41	33	27	36	29	24	31	26	21	18
6	58	44	34	27	54	41	32	26	36	29	23	31	25	20	27	22	18	15
7	53	39	29	23	50	37	28	22	32	25	19	28	22	17	24	19	15	12
8	49	35	26	20	46	33	25	19	29	22	17	25	19	15	22	17	13	11
9	46	32	23	17	43	30	22	16	26	19	15	23	17	13	20	15	11	9
10	43	29	20	15	40	27	19	14	24	17	13	21	15	11	18	13	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2053	2053	2053
5°	2092	2084	2098
10°	2124	2198	2293
15°	2169	2391	2624
20°	2226	2660	3115
25°	2292	3036	3826
30°	2367	3554	4797
35°	2451	4262	6032
40°	2557	5103	7877
45°	2709	6097	9577
50°	2919	7266	11764
55°	3180	8546	14111
60°	3505	9914	16425
65°	3892	11246	16132
70°	4180	11920	17109
75°	4294	12436	18774
80°	4249	14497	25137
85°	4160	22726	36968



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.4	0.6
10°-20°	461.9	2.1
20°-30°	903.0	4.1
30°-40°	1540.6	7.0
40°-50°	2351.6	10.7
50°-60°	3074.6	14.0
60°-70°	3080.2	14.1
70°-80°	2308.7	10.5
80°-90°	1347.7	6.2
90°-100°	149.3	0.7
100°-110°	922.0	4.2
110°-120°	1636.9	7.5
120°-130°	1615.0	7.4
130°-140°	1181.5	5.4
140°-150°	645.7	2.9
150°-160°	326.1	1.5
160°-170°	173.1	0.8
170°-180°	52.8	0.2
0°-30°	1505.4	6.9
0°-40°	3045.9	13.9
0°-60°	8472.1	38.7
0°-90°	15208.7	69.4
90°-120°	2708.2	12.4
90°-150°	6150.4	28.1
90°-180°	6702.0	30.6
0°-180°	21911.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1431	1431	1431	1431	1431	
5°	1452	1457	1446	1446	1456	139
15°	1460	1515	1610	1709	1766	414
25°	1447	1594	1917	2278	2416	669
35°	1399	1686	2432	3191	3443	877
45°	1335	1794	3004	4294	4718	1033
55°	1271	1872	3415	5072	5639	1138
65°	1146	1739	3312	4483	4750	1122
75°	774	1295	2243	3050	3386	810
85°	253	563	1380	2026	2245	260
90°	19	83	351	541	632	27
95°	128	81	25	20	19	151
105°	555	701	1002	1002	833	577
115°	812	1097	1580	2279	2865	791
125°	836	982	1930	2597	2811	746
135°	696	747	1524	2226	2420	546
145°	575	698	908	1376	1598	368
155°	563	643	639	770	834	262
165°	559	597	630	648	614	159
175°	558	551	538	511	584	53
180°	518	518	518	518	518	



TEST NUMBER: P236468

CATALOG NUMBER: SKB4-LD5-24-N-UNV-L850-CD4-U all blades horizontal

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1430.8	1430.8	1430.8	1430.8	1430.8	1430.8	1430.8	1430.8	1430.8	1430.8	1430.8
2.5°	1448.5	1449.6	1450.7	1450.7	1451.8	1451.8	1444.1	1440.7	1436.3	1430.8	1427.5
5°	1451.8	1451.8	1452.9	1454.0	1456.2	1457.3	1452.9	1450.7	1448.5	1446.3	1445.2
7.5°	1454.0	1455.1	1456.2	1458.4	1466.1	1471.6	1468.3	1470.5	1472.7	1472.7	1474.9
10°	1457.3	1458.4	1461.7	1469.4	1480.5	1492.6	1495.9	1501.4	1505.8	1508.0	1514.7
12.5°	1459.5	1460.6	1467.2	1478.2	1492.6	1508.0	1516.9	1529.0	1541.1	1555.5	1568.7
15°	1459.5	1461.7	1470.5	1484.9	1504.7	1525.7	1542.2	1566.5	1588.6	1609.5	1630.5
17.5°	1459.5	1461.7	1471.6	1492.6	1519.1	1547.7	1575.3	1609.5	1639.3	1669.1	1706.6
20°	1457.3	1459.5	1473.8	1500.3	1532.3	1570.9	1609.5	1652.6	1696.7	1741.9	1790.4
22.5°	1452.9	1457.3	1474.9	1506.9	1546.6	1597.4	1645.9	1704.4	1764.0	1823.5	1890.8
25°	1447.4	1451.8	1474.9	1512.4	1563.2	1623.9	1686.7	1761.8	1836.8	1917.3	2006.7
27.5°	1438.5	1445.2	1472.7	1518.0	1579.7	1652.6	1732.0	1823.5	1921.7	2027.6	2130.2
30°	1428.6	1436.3	1468.3	1521.3	1595.2	1682.3	1779.4	1893.0	2019.9	2144.6	2281.4
32.5°	1414.3	1423.1	1460.6	1524.6	1608.4	1713.2	1829.1	1975.8	2125.8	2283.6	2444.6
35°	1398.8	1409.9	1454.0	1526.8	1622.8	1748.5	1888.6	2064.0	2243.8	2432.5	2615.6
37.5°	1382.3	1395.5	1445.2	1529.0	1639.3	1782.7	1954.8	2152.3	2364.1	2573.7	2794.3
40°	1364.6	1381.2	1435.2	1530.1	1655.9	1822.4	2021.0	2245.0	2478.8	2723.7	2971.9
42.5°	1348.1	1366.8	1425.3	1530.1	1672.4	1861.0	2081.7	2335.4	2596.9	2867.1	3141.8
45°	1334.8	1354.7	1416.5	1530.1	1689.0	1899.7	2141.3	2423.7	2711.6	3003.9	3307.3
47.5°	1321.6	1342.6	1407.6	1529.0	1704.4	1936.1	2197.5	2500.9	2812.0	3135.2	3476.1
50°	1307.3	1330.4	1399.9	1529.0	1718.7	1969.2	2248.3	2567.1	2900.2	3254.4	3623.9
52.5°	1292.9	1316.1	1391.1	1527.9	1733.1	1994.5	2285.8	2615.6	2974.1	3350.3	3744.2
55°	1270.9	1297.3	1376.8	1523.5	1738.6	2005.6	2301.2	2648.7	3021.6	3415.4	3833.5
57.5°	1247.7	1275.3	1358.0	1513.6	1734.2	1998.9	2299.0	2659.7	3041.4	3452.9	3882.1
60°	1221.2	1247.7	1330.4	1492.6	1712.1	1973.6	2284.7	2644.3	3037.0	3454.0	3890.9
62.5°	1191.4	1214.6	1296.2	1459.5	1671.3	1930.5	2241.6	2609.0	3000.6	3415.4	3833.5
65°	1146.2	1167.2	1251.0	1411.0	1609.5	1867.7	2176.6	2538.4	2915.7	3311.7	3700.0
67.5°	1081.1	1102.1	1189.2	1343.7	1533.4	1783.8	2087.2	2432.5	2775.6	3136.3	3462.9
70°	996.2	1017.1	1109.8	1252.1	1435.2	1681.2	1965.9	2278.0	2585.8	2840.7	2986.3
72.5°	892.5	916.7	1010.5	1141.8	1322.7	1553.3	1815.8	2096.0	2267.0	2455.7	2711.6
75°	774.4	802.0	893.6	1016.0	1191.4	1397.7	1641.5	1800.4	1995.6	2242.7	2463.4
77.5°	646.5	680.7	763.4	881.4	1040.3	1230.0	1379.0	1586.4	1786.0	1990.1	2192.0
80°	514.1	552.7	626.6	735.8	877.0	1002.8	1178.2	1366.8	1553.3	1754.0	1950.4
82.5°	381.7	420.3	488.7	583.6	684.0	805.3	968.6	1153.9	1359.1	1596.3	1833.5
85°	252.6	285.7	346.4	397.1	496.4	629.9	824.1	1021.5	1195.8	1380.1	1557.7
87.5°	132.4	152.2	188.6	261.5	369.6	470.0	601.2	736.9	858.3	1019.3	1156.1
90°	18.8	19.9	26.5	35.3	68.4	98.2	160.0	232.8	263.7	350.8	391.6
92.5°	28.7	27.6	23.2	17.7	14.3	14.3	13.2	12.1	11.0	8.8	6.6
95°	128.0	139.0	126.9	109.2	86.0	76.1	56.3	39.7	33.1	25.4	23.2
97.5°	235.0	261.5	262.6	244.9	233.9	215.1	186.4	180.9	173.2	151.1	132.4
100°	354.1	391.6	403.8	389.4	385.0	410.4	403.8	375.1	338.7	310.0	323.2
102.5°	475.5	509.7	533.9	574.8	525.1	560.4	610.1	642.0	665.2	644.3	597.9
105°	554.9	583.6	627.7	686.2	729.2	672.9	720.4	835.1	941.0	1001.7	1040.3
107.5°	625.5	645.4	700.5	772.2	852.8	899.1	826.3	903.5	1081.1	1256.5	1384.5
110°	708.2	721.5	751.3	850.5	938.8	1056.8	1083.3	1021.5	1108.7	1308.4	1567.6



TEST NUMBER: P236468

CATALOG NUMBER: SKB4-LD5-24-N-UNV-L850-CD4-U all blades horizontal

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	770.0	773.3	764.5	884.7	1002.8	1118.6	1280.8	1311.7	1278.6	1339.2	1499.2
115°	811.9	806.4	775.5	873.7	1028.2	1166.1	1323.8	1522.4	1575.3	1579.7	1606.2
117.5°	835.1	825.2	796.5	856.1	1024.8	1192.5	1353.6	1554.4	1761.8	1847.8	1920.6
120°	842.8	831.8	823.0	820.8	979.6	1188.1	1376.8	1561.0	1771.7	1990.1	2113.7
122.5°	841.7	832.9	845.0	786.6	925.6	1153.9	1369.0	1565.4	1755.1	1970.3	2184.3
125°	836.2	829.6	853.9	779.9	888.1	1076.7	1320.5	1543.3	1734.2	1930.5	2123.6
127.5°	823.0	819.7	850.5	784.4	837.3	996.2	1248.8	1484.9	1690.1	1882.0	2068.4
130°	800.9	800.9	830.7	800.9	782.1	928.9	1123.0	1385.6	1604.0	1805.9	1996.7
132.5°	753.5	759.0	786.6	800.9	750.2	864.9	1009.4	1245.5	1467.2	1692.3	1877.6
135°	696.1	707.1	735.8	775.5	718.2	775.5	921.1	1075.6	1318.3	1523.5	1735.3
137.5°	653.1	667.4	696.1	747.9	728.1	730.3	862.7	973.0	1124.1	1359.1	1542.2
140°	616.7	632.1	660.8	717.1	731.4	695.0	763.4	901.3	1000.6	1145.1	1356.9
142.5°	591.3	604.5	631.0	682.9	713.8	686.2	716.0	815.2	910.1	1008.3	1124.1
145°	574.8	585.8	607.8	649.8	693.9	702.7	676.2	729.2	837.3	907.9	992.9
147.5°	574.8	579.2	592.4	620.0	672.9	697.2	677.3	688.4	732.5	851.6	898.0
150°	578.1	579.2	591.3	609.0	652.0	687.3	702.7	655.3	687.3	730.3	809.7
152.5°	568.1	573.6	595.7	614.5	642.0	677.3	687.3	687.3	646.5	679.6	708.2
155°	562.6	567.0	590.2	607.8	626.6	658.6	676.2	686.2	679.6	638.7	659.7
157.5°	561.5	563.7	581.4	599.0	616.7	636.5	663.0	672.9	677.3	681.8	655.3
160°	560.4	561.5	577.0	591.3	607.8	621.1	639.8	660.8	665.2	667.4	684.0
162.5°	559.3	560.4	572.5	588.0	599.0	611.2	621.1	636.5	649.8	657.5	660.8
165°	559.3	559.3	568.1	583.6	592.4	601.2	609.0	615.6	618.9	629.9	639.8
167.5°	559.3	559.3	563.7	574.8	586.9	590.2	594.6	600.1	599.0	599.0	599.0
170°	560.4	560.4	560.4	565.9	575.9	582.5	582.5	583.6	580.3	577.0	570.3
172.5°	559.3	558.2	558.2	558.2	561.5	564.8	568.1	569.2	563.7	558.2	549.4
175°	558.2	557.1	554.9	552.7	552.7	549.4	547.2	545.0	540.6	538.3	531.7
177.5°	557.1	556.0	553.8	550.5	548.3	542.8	537.2	530.6	520.7	514.1	504.1
180°	518.5	518.5	518.5	518.5	518.5	518.5	518.5	518.5	518.5	518.5	518.5



TEST NUMBER: P236468

CATALOG NUMBER: SKB4-LD5-24-N-UNV-L850-CD4-U all blades horizontal

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1430.8	1430.8	1430.8	1430.8	1430.8	1430.8	1430.8	1430.8
2.5°	1423.1	1418.7	1418.7	1420.9	1424.2	1424.2	1424.2	1428.6
5°	1442.9	1441.8	1444.1	1448.5	1451.8	1451.8	1450.7	1456.2
7.5°	1477.1	1478.2	1482.7	1490.4	1495.9	1497.0	1497.0	1503.6
10°	1522.4	1529.0	1541.1	1552.2	1561.0	1564.3	1566.5	1573.1
12.5°	1583.1	1594.1	1609.5	1626.1	1639.3	1645.9	1649.2	1653.7
15°	1653.7	1674.6	1697.8	1719.8	1738.6	1749.6	1755.1	1766.2
17.5°	1740.8	1769.5	1798.2	1831.3	1856.6	1872.1	1880.9	1887.5
20°	1837.9	1883.1	1926.1	1970.3	2003.4	2023.2	2033.1	2039.8
22.5°	1958.1	2017.7	2072.9	2128.0	2166.6	2198.6	2213.0	2217.4
25°	2089.4	2166.6	2242.7	2313.3	2366.3	2393.9	2409.3	2415.9
27.5°	2243.8	2344.2	2430.3	2509.7	2569.3	2614.5	2635.5	2644.3
30°	2417.0	2531.8	2639.9	2741.4	2809.8	2858.3	2884.8	2894.7
32.5°	2603.5	2750.2	2872.7	2979.7	3074.5	3126.4	3159.5	3169.4
35°	2810.9	2971.9	3124.2	3257.7	3358.1	3414.3	3433.1	3443.0
37.5°	3009.5	3209.1	3379.0	3523.5	3650.4	3742.0	3796.0	3818.1
40°	3217.9	3436.4	3630.5	3820.3	3999.0	4120.3	4183.2	4204.2
42.5°	3415.4	3666.9	3907.4	4130.3	4306.8	4395.0	4445.8	4465.6
45°	3619.5	3908.5	4178.8	4409.4	4569.3	4648.8	4700.6	4718.3
47.5°	3818.1	4135.8	4430.3	4663.1	4848.4	4970.9	5042.6	5068.0
50°	3993.5	4341.0	4649.9	4908.0	5088.9	5183.8	5241.2	5268.7
52.5°	4142.4	4505.4	4828.6	5070.2	5253.3	5369.1	5441.9	5470.6
55°	4238.4	4619.0	4943.3	5200.3	5395.6	5521.4	5601.9	5639.4
57.5°	4296.9	4679.7	5006.2	5268.7	5473.9	5606.3	5690.2	5736.5
60°	4292.4	4663.1	4987.4	5245.6	5440.8	5578.7	5668.1	5722.1
62.5°	4218.5	4560.5	4854.0	5069.1	5229.0	5286.4	5295.2	5336.0
65°	4043.1	4305.7	4444.7	4521.9	4625.6	4686.3	4710.5	4750.3
67.5°	3619.5	3758.5	3946.0	4115.9	4266.0	4347.6	4396.1	4428.1
70°	3198.1	3434.2	3640.5	3807.0	3928.4	4013.3	4037.6	4077.3
72.5°	2937.7	3140.7	3315.0	3450.7	3555.5	3619.5	3628.3	3642.7
75°	2645.4	2805.4	2974.1	3125.3	3246.6	3317.2	3364.7	3385.6
77.5°	2384.0	2560.5	2728.1	2880.4	3010.6	3087.8	3136.3	3154.0
80°	2147.9	2367.4	2574.8	2744.7	2887.0	2990.7	3027.1	3041.4
82.5°	2039.8	2224.0	2384.0	2499.8	2598.0	2649.8	2662.0	2664.2
85°	1720.9	1854.4	1975.8	2076.2	2167.7	2226.2	2248.3	2245.0
87.5°	1290.7	1399.9	1511.3	1606.2	1700.0	1766.2	1790.4	1788.2
90°	462.2	462.2	524.0	558.2	654.2	714.9	693.9	632.1
92.5°	4.4	4.4	3.3	2.2	2.2	1.1	1.1	1.1
95°	21.0	21.0	19.9	19.9	19.9	18.8	18.8	18.8
97.5°	107.0	96.0	80.5	70.6	57.4	49.6	48.5	46.3
100°	324.3	318.8	302.3	292.3	278.0	267.0	263.7	263.7
102.5°	538.3	487.6	474.4	485.4	497.5	501.9	501.9	505.3
105°	1061.3	1055.7	1028.2	975.2	912.3	855.0	834.0	832.9
107.5°	1477.1	1559.9	1618.4	1645.9	1660.3	1649.2	1645.9	1659.2
110°	1762.9	1919.5	2050.8	2142.4	2203.0	2220.7	2233.9	2250.5



TEST NUMBER: P236468

CATALOG NUMBER: SKB4-LD5-24-N-UNV-L850-CD4-U all blades horizontal

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1764.0	2053.0	2302.3	2454.6	2558.3	2603.5	2630.0	2648.7
115°	1724.3	1894.1	2160.0	2397.2	2612.3	2754.6	2830.7	2864.9
117.5°	1914.0	1965.9	2089.4	2206.3	2324.4	2422.6	2485.4	2511.9
120°	2179.9	2246.1	2258.2	2295.7	2359.7	2382.8	2397.2	2411.5
122.5°	2323.3	2381.7	2462.3	2542.8	2589.1	2626.7	2654.2	2674.1
125°	2344.2	2470.0	2573.7	2620.0	2646.5	2692.8	2771.2	2810.9
127.5°	2246.1	2425.9	2592.5	2649.8	2710.5	2723.7	2735.9	2741.4
130°	2166.6	2325.5	2447.9	2571.5	2674.1	2719.3	2727.0	2727.0
132.5°	2062.9	2196.4	2335.4	2436.9	2494.3	2536.2	2562.7	2573.7
135°	1898.6	2053.0	2179.9	2271.4	2353.1	2393.9	2411.5	2420.4
137.5°	1723.2	1865.5	1989.0	2110.4	2195.3	2239.4	2256.0	2260.4
140°	1513.6	1649.2	1788.2	1899.7	1975.8	2032.0	2059.6	2064.0
142.5°	1303.9	1444.1	1551.1	1649.2	1739.7	1810.3	1847.8	1857.7
145°	1076.7	1193.6	1326.0	1425.3	1504.7	1554.4	1586.4	1598.5
147.5°	959.8	1024.8	1082.2	1156.1	1234.4	1307.3	1351.4	1361.3
150°	878.1	915.6	959.8	1001.7	1034.8	1054.6	1070.1	1061.3
152.5°	757.9	862.7	883.6	900.2	913.4	928.9	920.0	920.0
155°	681.8	707.1	750.2	788.8	860.5	840.6	836.2	834.0
157.5°	634.3	645.4	664.1	669.6	666.3	660.8	664.1	656.4
160°	669.6	644.3	610.1	609.0	592.4	583.6	579.2	574.8
162.5°	661.9	668.5	668.5	652.0	626.6	599.0	582.5	577.0
165°	646.5	648.7	650.9	644.3	637.6	623.3	615.6	614.5
167.5°	603.4	614.5	623.3	631.0	636.5	627.7	612.3	607.8
170°	567.0	568.1	570.3	579.2	592.4	595.7	586.9	561.5
172.5°	540.6	537.2	536.1	543.9	561.5	575.9	581.4	595.7
175°	520.7	510.8	507.5	515.2	533.9	554.9	578.1	583.6
177.5°	490.9	478.8	472.2	479.9	497.5	525.1	552.7	556.0
180°	518.5	518.5	518.5	518.5	518.5	518.5	518.5	518.5

(END OF REPORT)