

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: P236463

Luminaire Tested: **SKB4-LD5-18-N-UNV-L835-CD2-U all blades horizontal**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236463
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-LD5-18-N-UNV-L835-CD2-U all blades horizontal
Description: METALUX SKYBAR LED WAVESTREAM LUMINAIRE
4 BLADES WITH NARROW DISTRIBUTION LENS, ALL BLADES HORIZONTAL
Light Source: (952) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

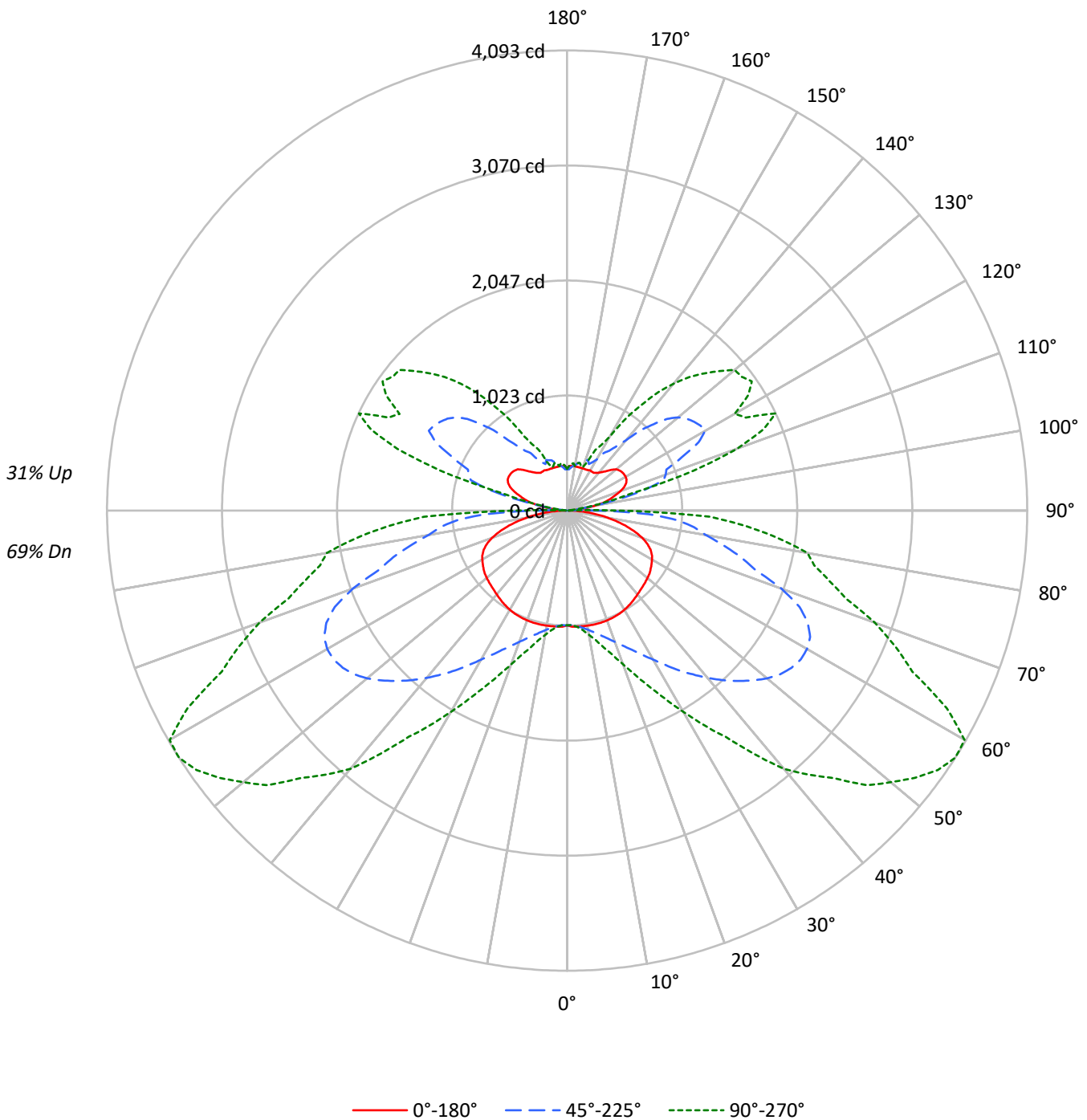
Lumens per Lamp: N/A
Luminaire Lumens: 15632.0 lumens
Efficiency: N/A
Efficacy: 109.0 lumens/watt
Spacing Criteria (0/90/45): 1.49 / 3.46 / 2.71
Luminous Opening: Rectangular (W 1.88' x L: 4' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 143.4
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: P236463

CATALOG NUMBER: SKB4-LD5-18-N-UNV-L835-CD2-U all blades horizontal

Luminous Intensity Polar Plot





TEST NUMBER: P236463

CATALOG NUMBER: SKB4-LD5-18-N-UNV-L835-CD2-U all blades horizontal

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°	1465	1465	1465
5°	1492	1486	1497
10°	1515	1568	1636
15°	1547	1706	1872
20°	1588	1898	2223
25°	1635	2166	2729
30°	1689	2536	3422
35°	1749	3040	4304
40°	1824	3641	5619
45°	1933	4350	6832
50°	2082	5184	8393
55°	2269	6097	10067
60°	2501	7073	11718
65°	2777	8024	11509
70°	2982	8504	12206
75°	3064	8872	13394
80°	3032	10343	17934
85°	2967	16213	26373



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.2	0.6
10°-20°	329.5	2.1
20°-30°	644.2	4.1
30°-40°	1099.1	7.0
40°-50°	1677.7	10.7
50°-60°	2193.5	14.0
60°-70°	2197.5	14.1
70°-80°	1647.1	10.5
80°-90°	961.5	6.2
90°-100°	106.5	0.7
100°-110°	657.8	4.2
110°-120°	1167.8	7.5
120°-130°	1152.2	7.4
130°-140°	842.9	5.4
140°-150°	460.7	2.9
150°-160°	232.7	1.5
160°-170°	123.5	0.8
170°-180°	37.6	0.2
0°-30°	1074.0	6.9
0°-40°	2173.1	13.9
0°-60°	6044.3	38.7
0°-90°	10850.3	69.4
90°-120°	1932.1	12.4
90°-150°	4387.9	28.1
90°-180°	4782.0	30.6
0°-180°	15632.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1021	1021	1021	1021	1021	
5°	1036	1039	1032	1032	1039	99
15°	1041	1081	1148	1219	1260	295
25°	1033	1137	1368	1625	1724	477
35°	998	1203	1735	2276	2456	626
45°	952	1280	2143	3064	3366	737
55°	907	1336	2437	3618	4023	812
65°	818	1240	2363	3199	3389	801
75°	552	924	1600	2176	2415	578
85°	180	402	985	1445	1602	186
90°	13	59	250	386	451	19
95°	91	58	18	14	13	107
105°	396	500	715	715	594	412
115°	579	783	1127	1626	2044	565
125°	597	701	1377	1853	2005	532
135°	497	533	1087	1588	1727	390
145°	410	498	648	981	1140	262
155°	401	458	456	549	595	187
165°	399	426	449	462	438	113
175°	398	393	384	365	416	38
180°	370	370	370	370	370	



TEST NUMBER: P236463

CATALOG NUMBER: SKB4-LD5-18-N-UNV-L835-CD2-U all blades horizontal

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8
2.5°	1033.4	1034.2	1035.0	1035.0	1035.7	1035.7	1030.2	1027.9	1024.7	1020.8	1018.4
5°	1035.7	1035.7	1036.5	1037.3	1038.9	1039.7	1036.5	1035.0	1033.4	1031.8	1031.0
7.5°	1037.3	1038.1	1038.9	1040.5	1046.0	1049.9	1047.5	1049.1	1050.7	1050.7	1052.3
10°	1039.7	1040.5	1042.8	1048.3	1056.2	1064.9	1067.2	1071.2	1074.3	1075.9	1080.6
12.5°	1041.2	1042.0	1046.8	1054.6	1064.9	1075.9	1082.2	1090.8	1099.5	1109.7	1119.2
15°	1041.2	1042.8	1049.1	1059.4	1073.5	1088.5	1100.3	1117.6	1133.3	1148.3	1163.2
17.5°	1041.2	1042.8	1049.9	1064.9	1083.7	1104.2	1123.9	1148.3	1169.5	1190.8	1217.5
20°	1039.7	1041.2	1051.5	1070.4	1093.2	1120.7	1148.3	1179.0	1210.5	1242.7	1277.4
22.5°	1036.5	1039.7	1052.3	1075.1	1103.4	1139.6	1174.3	1216.0	1258.5	1301.0	1349.0
25°	1032.6	1035.7	1052.3	1079.0	1115.2	1158.5	1203.4	1256.9	1310.4	1367.9	1431.6
27.5°	1026.3	1031.0	1050.7	1083.0	1127.0	1179.0	1235.6	1301.0	1371.0	1446.6	1519.8
30°	1019.2	1024.7	1047.5	1085.3	1138.1	1200.2	1269.5	1350.6	1441.1	1530.0	1627.6
32.5°	1009.0	1015.3	1042.0	1087.7	1147.5	1222.3	1304.9	1409.6	1516.6	1629.2	1744.1
35°	998.0	1005.8	1037.3	1089.3	1157.7	1247.5	1347.4	1472.5	1600.8	1735.4	1866.1
37.5°	986.2	995.6	1031.0	1090.8	1169.5	1271.9	1394.6	1535.5	1686.6	1836.2	1993.6
40°	973.6	985.4	1023.9	1091.6	1181.3	1300.2	1441.9	1601.6	1768.5	1943.2	2120.3
42.5°	961.8	975.1	1016.9	1091.6	1193.1	1327.7	1485.1	1666.2	1852.7	2045.5	2241.5
45°	952.3	966.5	1010.6	1091.6	1205.0	1355.3	1527.6	1729.1	1934.5	2143.1	2359.5
47.5°	942.9	957.8	1004.3	1090.8	1216.0	1381.2	1567.8	1784.2	2006.2	2236.8	2480.0
50°	932.6	949.2	998.7	1090.8	1226.2	1404.9	1604.0	1831.4	2069.1	2321.8	2585.4
52.5°	922.4	938.9	992.5	1090.0	1236.4	1423.0	1630.7	1866.1	2121.9	2390.2	2671.2
55°	906.7	925.6	982.2	1086.9	1240.4	1430.8	1641.8	1889.7	2155.7	2436.7	2735.0
57.5°	890.1	909.8	968.8	1079.8	1237.2	1426.1	1640.2	1897.5	2169.9	2463.4	2769.6
60°	871.2	890.1	949.2	1064.9	1221.5	1408.0	1630.0	1886.5	2166.7	2464.2	2775.9
62.5°	850.0	866.5	924.8	1041.2	1192.4	1377.3	1599.3	1861.3	2140.7	2436.7	2735.0
65°	817.7	832.7	892.5	1006.6	1148.3	1332.5	1552.8	1811.0	2080.1	2362.7	2639.7
67.5°	771.3	786.2	848.4	958.6	1094.0	1272.6	1489.1	1735.4	1980.2	2237.5	2470.5
70°	710.7	725.6	791.8	893.3	1023.9	1199.4	1402.5	1625.2	1844.8	2026.6	2130.5
72.5°	636.7	654.0	720.9	814.6	943.7	1108.1	1295.5	1495.4	1617.4	1751.9	1934.5
75°	552.5	572.2	637.5	724.9	850.0	997.2	1171.1	1284.4	1423.7	1600.0	1757.5
77.5°	461.2	485.6	544.6	628.8	742.2	877.5	983.8	1131.8	1274.2	1419.8	1563.8
80°	366.8	394.3	447.0	525.0	625.7	715.4	840.6	975.1	1108.1	1251.4	1391.5
82.5°	272.3	299.9	348.7	416.3	488.0	574.5	691.0	823.2	969.6	1138.8	1308.1
85°	180.2	203.8	247.1	283.3	354.2	449.4	587.9	728.8	853.1	984.6	1111.3
87.5°	94.4	108.6	134.6	186.5	263.7	335.3	428.9	525.7	612.3	727.2	824.8
90°	13.4	14.2	18.9	25.2	48.8	70.0	114.1	166.1	188.1	250.3	279.4
92.5°	20.5	19.7	16.5	12.6	10.2	10.2	9.4	8.7	7.9	6.3	4.7
95°	91.3	99.2	90.5	77.9	61.4	54.3	40.1	28.3	23.6	18.1	16.5
97.5°	167.6	186.5	187.3	174.7	166.9	153.5	133.0	129.1	123.6	107.8	94.4
100°	252.6	279.4	288.1	277.8	274.7	292.8	288.1	267.6	241.6	221.2	230.6
102.5°	339.2	363.6	380.9	410.0	374.6	399.8	435.2	458.1	474.6	459.6	426.6
105°	395.9	416.3	447.8	489.5	520.2	480.1	513.9	595.8	671.3	714.6	742.2
107.5°	446.2	460.4	499.8	550.9	608.4	641.4	589.5	644.6	771.3	896.4	987.7
110°	505.3	514.7	536.0	606.8	669.8	754.0	772.9	728.8	791.0	933.4	1118.4



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CATALOG NUMBER: SKB4-LD5-18-N-UNV-L835-CD2-U all blades horizontal

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	549.4	551.7	545.4	631.2	715.4	798.1	913.7	935.8	912.2	955.5	1069.6
115°	579.3	575.3	553.3	623.3	733.5	831.9	944.4	1086.1	1123.9	1127.0	1145.9
117.5°	595.8	588.7	568.2	610.7	731.2	850.8	965.7	1108.9	1256.9	1318.3	1370.2
120°	601.3	593.4	587.1	585.6	698.9	847.6	982.2	1113.7	1264.0	1419.8	1508.0
122.5°	600.5	594.2	602.9	561.2	660.3	823.2	976.7	1116.8	1252.2	1405.6	1558.3
125°	596.6	591.9	609.2	556.4	633.6	768.1	942.1	1101.1	1237.2	1377.3	1515.0
127.5°	587.1	584.8	606.8	559.6	597.4	710.7	890.9	1059.4	1205.7	1342.7	1475.7
130°	571.4	571.4	592.6	571.4	558.0	662.7	801.2	988.5	1144.4	1288.4	1424.5
132.5°	537.5	541.5	561.2	571.4	535.2	617.0	720.1	888.6	1046.8	1207.3	1339.5
135°	496.6	504.5	525.0	553.3	512.4	553.3	657.2	767.4	940.5	1086.9	1238.0
137.5°	465.9	476.2	496.6	533.6	519.4	521.0	615.5	694.2	802.0	969.6	1100.3
140°	440.0	451.0	471.4	511.6	521.8	495.8	544.6	643.0	713.8	816.9	968.1
142.5°	421.9	431.3	450.2	487.2	509.2	489.5	510.8	581.6	649.3	719.4	802.0
145°	410.0	417.9	433.7	463.6	495.0	501.3	482.5	520.2	597.4	647.7	708.3
147.5°	410.0	413.2	422.6	442.3	480.1	497.4	483.2	491.1	522.6	607.6	640.6
150°	412.4	413.2	421.9	434.4	465.1	490.3	501.3	467.5	490.3	521.0	577.7
152.5°	405.3	409.3	425.0	438.4	458.1	483.2	490.3	490.3	461.2	484.8	505.3
155°	401.4	404.5	421.1	433.7	447.0	469.9	482.5	489.5	484.8	455.7	470.6
157.5°	400.6	402.2	414.8	427.4	440.0	454.1	473.0	480.1	483.2	486.4	467.5
160°	399.8	400.6	411.6	421.9	433.7	443.1	456.5	471.4	474.6	476.2	488.0
162.5°	399.0	399.8	408.5	419.5	427.4	436.0	443.1	454.1	463.6	469.1	471.4
165°	399.0	399.0	405.3	416.3	422.6	428.9	434.4	439.2	441.5	449.4	456.5
167.5°	399.0	399.0	402.2	410.0	418.7	421.1	424.2	428.1	427.4	427.4	427.4
170°	399.8	399.8	399.8	403.7	410.8	415.6	415.6	416.3	414.0	411.6	406.9
172.5°	399.0	398.2	398.2	398.2	400.6	403.0	405.3	406.1	402.2	398.2	391.9
175°	398.2	397.5	395.9	394.3	394.3	391.9	390.4	388.8	385.6	384.1	379.4
177.5°	397.5	396.7	395.1	392.7	391.2	387.2	383.3	378.6	371.5	366.8	359.7
180°	369.9	369.9	369.9	369.9	369.9	369.9	369.9	369.9	369.9	369.9	369.9



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CATALOG NUMBER: SKB4-LD5-18-N-UNV-L835-CD2-U all blades horizontal

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8	1020.8
2.5°	1015.3	1012.1	1012.1	1013.7	1016.1	1016.1	1016.1	1019.2
5°	1029.4	1028.7	1030.2	1033.4	1035.7	1035.7	1035.0	1038.9
7.5°	1053.8	1054.6	1057.8	1063.3	1067.2	1068.0	1068.0	1072.7
10°	1086.1	1090.8	1099.5	1107.4	1113.7	1116.0	1117.6	1122.3
12.5°	1129.4	1137.3	1148.3	1160.1	1169.5	1174.3	1176.6	1179.8
15°	1179.8	1194.7	1211.2	1227.0	1240.4	1248.2	1252.2	1260.0
17.5°	1241.9	1262.4	1282.9	1306.5	1324.6	1335.6	1341.9	1346.6
20°	1311.2	1343.5	1374.2	1405.6	1429.3	1443.4	1450.5	1455.2
22.5°	1397.0	1439.5	1478.8	1518.2	1545.7	1568.6	1578.8	1581.9
25°	1490.6	1545.7	1600.0	1650.4	1688.2	1707.9	1718.9	1723.6
27.5°	1600.8	1672.5	1733.8	1790.5	1833.0	1865.3	1880.2	1886.5
30°	1724.4	1806.2	1883.4	1955.8	2004.6	2039.2	2058.1	2065.2
32.5°	1857.4	1962.1	2049.4	2125.8	2193.5	2230.5	2254.1	2261.2
35°	2005.4	2120.3	2228.9	2324.1	2395.7	2435.9	2449.3	2456.3
37.5°	2147.0	2289.5	2410.7	2513.8	2604.3	2669.6	2708.2	2723.9
40°	2295.8	2451.6	2590.1	2725.5	2853.0	2939.6	2984.4	2999.4
42.5°	2436.7	2616.1	2787.7	2946.7	3072.6	3135.6	3171.8	3185.9
45°	2582.3	2788.5	2981.3	3145.8	3259.9	3316.6	3353.6	3366.2
47.5°	2723.9	2950.6	3160.7	3326.8	3459.0	3546.4	3597.5	3615.6
50°	2849.1	3097.0	3317.4	3501.5	3630.6	3698.3	3739.2	3758.9
52.5°	2955.3	3214.3	3444.9	3617.2	3747.9	3830.5	3882.5	3902.9
55°	3023.8	3295.3	3526.7	3710.1	3849.4	3939.1	3996.6	4023.3
57.5°	3065.5	3338.6	3571.6	3758.9	3905.3	3999.7	4059.5	4092.6
60°	3062.4	3326.8	3558.2	3742.4	3881.7	3980.0	4043.8	4082.4
62.5°	3009.6	3253.6	3463.0	3616.4	3730.6	3771.5	3777.8	3806.9
65°	2884.5	3071.8	3171.0	3226.1	3300.0	3343.3	3360.6	3389.0
67.5°	2582.3	2681.4	2815.2	2936.4	3043.5	3101.7	3136.3	3159.2
70°	2281.6	2450.0	2597.2	2716.1	2802.6	2863.2	2880.6	2908.9
72.5°	2095.9	2240.7	2365.0	2461.9	2536.6	2582.3	2588.6	2598.8
75°	1887.3	2001.4	2121.9	2229.7	2316.2	2366.6	2400.5	2415.4
77.5°	1700.8	1826.7	1946.3	2055.0	2147.8	2202.9	2237.5	2250.1
80°	1532.4	1689.0	1836.9	1958.1	2059.7	2133.7	2159.6	2169.9
82.5°	1455.2	1586.7	1700.8	1783.4	1853.5	1890.5	1899.1	1900.7
85°	1227.8	1323.0	1409.6	1481.2	1546.5	1588.2	1604.0	1601.6
87.5°	920.8	998.7	1078.2	1145.9	1212.8	1260.0	1277.4	1275.8
90°	329.8	329.8	373.8	398.2	466.7	510.0	495.0	451.0
92.5°	3.1	3.1	2.4	1.6	1.6	0.8	0.8	0.8
95°	15.0	15.0	14.2	14.2	14.2	13.4	13.4	13.4
97.5°	76.3	68.5	57.5	50.4	40.9	35.4	34.6	33.1
100°	231.4	227.5	215.6	208.6	198.3	190.5	188.1	188.1
102.5°	384.1	347.9	338.4	346.3	355.0	358.1	358.1	360.5
105°	757.1	753.2	733.5	695.7	650.9	610.0	595.0	594.2
107.5°	1053.8	1112.9	1154.6	1174.3	1184.5	1176.6	1174.3	1183.7
110°	1257.7	1369.4	1463.1	1528.4	1571.7	1584.3	1593.7	1605.6



TEST NUMBER: P236463

CATALOG NUMBER: SKB4-LD5-18-N-UNV-L835-CD2-U all blades horizontal

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1258.5	1464.7	1642.5	1751.2	1825.1	1857.4	1876.3	1889.7
115°	1230.1	1351.3	1541.0	1710.2	1863.7	1965.2	2019.5	2043.9
117.5°	1365.5	1402.5	1490.6	1574.1	1658.3	1728.3	1773.2	1792.1
120°	1555.2	1602.4	1611.1	1637.8	1683.5	1700.0	1710.2	1720.5
122.5°	1657.5	1699.2	1756.7	1814.1	1847.2	1873.9	1893.6	1907.8
125°	1672.5	1762.2	1836.2	1869.2	1888.1	1921.2	1977.0	2005.4
127.5°	1602.4	1730.7	1849.5	1890.5	1933.7	1943.2	1951.9	1955.8
130°	1545.7	1659.1	1746.4	1834.6	1907.8	1940.0	1945.6	1945.6
132.5°	1471.8	1567.0	1666.2	1738.6	1779.5	1809.4	1828.3	1836.2
135°	1354.5	1464.7	1555.2	1620.5	1678.7	1707.9	1720.5	1726.8
137.5°	1229.4	1330.9	1419.0	1505.6	1566.2	1597.7	1609.5	1612.6
140°	1079.8	1176.6	1275.8	1355.3	1409.6	1449.7	1469.4	1472.5
142.5°	930.3	1030.2	1106.6	1176.6	1241.2	1291.5	1318.3	1325.4
145°	768.1	851.6	946.0	1016.9	1073.5	1108.9	1131.8	1140.4
147.5°	684.7	731.2	772.1	824.8	880.7	932.6	964.1	971.2
150°	626.5	653.2	684.7	714.6	738.2	752.4	763.4	757.1
152.5°	540.7	615.5	630.4	642.2	651.7	662.7	656.4	656.4
155°	486.4	504.5	535.2	562.7	613.9	599.7	596.6	595.0
157.5°	452.5	460.4	473.8	477.7	475.4	471.4	473.8	468.3
160°	477.7	459.6	435.2	434.4	422.6	416.3	413.2	410.0
162.5°	472.2	476.9	476.9	465.1	447.0	427.4	415.6	411.6
165°	461.2	462.8	464.4	459.6	454.9	444.7	439.2	438.4
167.5°	430.5	438.4	444.7	450.2	454.1	447.8	436.8	433.7
170°	404.5	405.3	406.9	413.2	422.6	425.0	418.7	400.6
172.5°	385.6	383.3	382.5	388.0	400.6	410.8	414.8	425.0
175°	371.5	364.4	362.0	367.5	380.9	395.9	412.4	416.3
177.5°	350.2	341.6	336.9	342.4	355.0	374.6	394.3	396.7
180°	369.9	369.9	369.9	369.9	369.9	369.9	369.9	369.9

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