

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: P236466

Luminaire Tested: **SKB4-LD5-24-N-UNV-L835-CD4-U all blades horizontal**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236466
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-L835-CD4-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

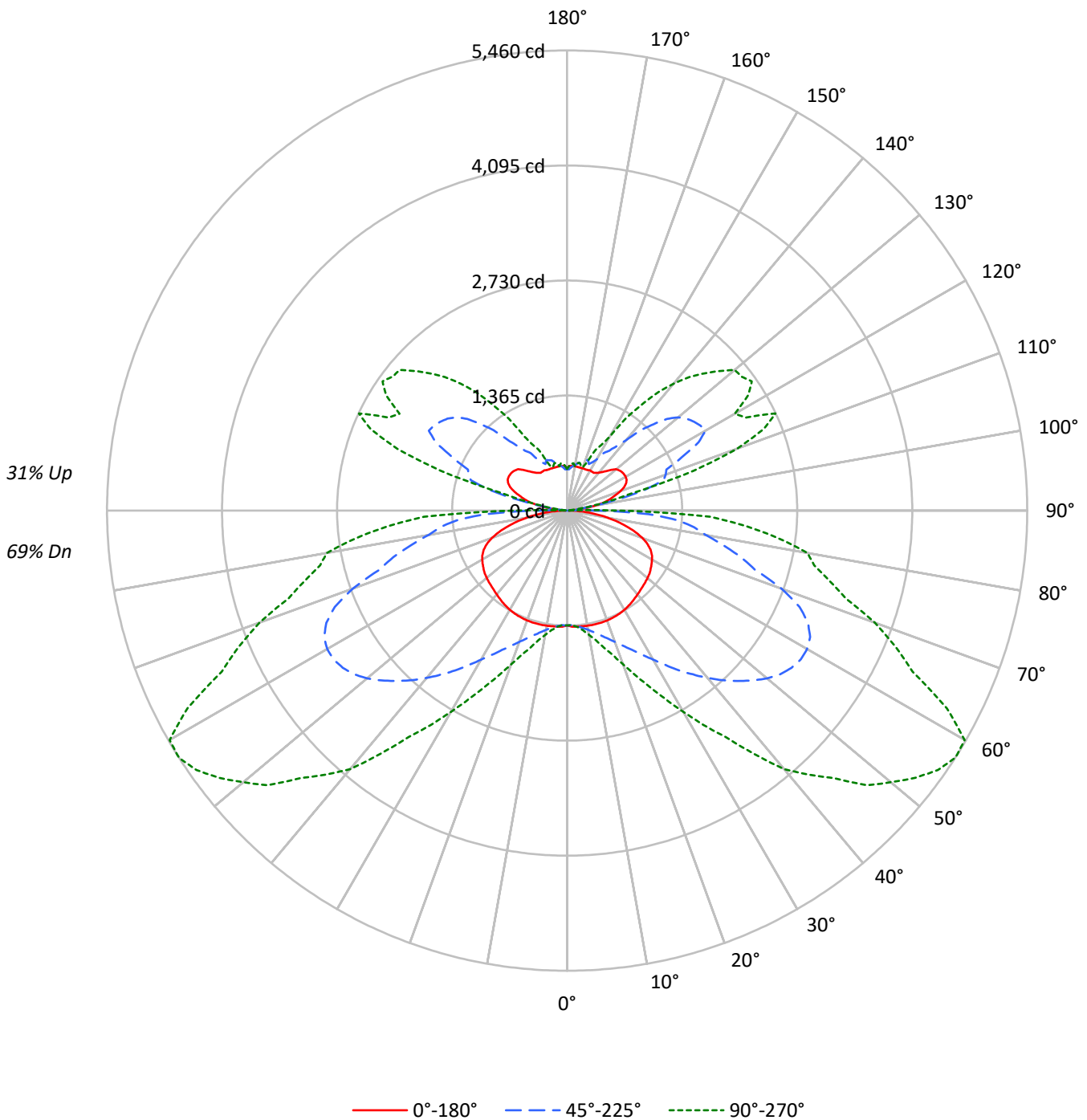
Lumens per Lamp: N/A
Luminaire Lumens: 20855.3 lumens
Efficiency: N/A
Efficacy: 101.1 lumens/watt
Spacing Criteria (0/90/45): 1.49 / 3.46 / 2.71
Luminous Opening: Rectangular (W 1.88' x L: 4' x H: 0')
CIE Type: Semi-Direct

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-L835-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°	1955	1955	1955
5°	1991	1983	1997
10°	2021	2092	2182
15°	2064	2276	2498
20°	2119	2532	2965
25°	2182	2890	3641
30°	2253	3383	4566
35°	2333	4057	5742
40°	2433	4857	7497
45°	2579	5803	9115
50°	2778	6916	11197
55°	3027	8134	13431
60°	3337	9437	15633
65°	3705	10704	15354
70°	3979	11346	16285
75°	4087	11837	17869
80°	4044	13798	23926
85°	3960	21631	35187



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.7	0.6
10°-20°	439.7	2.1
20°-30°	859.5	4.1
30°-40°	1466.3	7.0
40°-50°	2238.3	10.7
50°-60°	2926.4	14.0
60°-70°	2931.7	14.1
70°-80°	2197.5	10.5
80°-90°	1282.7	6.2
90°-100°	142.1	0.7
100°-110°	877.6	4.2
110°-120°	1558.0	7.5
120°-130°	1537.2	7.4
130°-140°	1124.5	5.4
140°-150°	614.6	2.9
150°-160°	310.4	1.5
160°-170°	164.7	0.8
170°-180°	50.2	0.2
0°-30°	1432.8	6.9
0°-40°	2899.2	13.9
0°-60°	8063.9	38.7
0°-90°	14475.8	69.4
90°-120°	2577.8	12.4
90°-150°	5854.1	28.1
90°-180°	6379.0	30.6
0°-180°	20855.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1362	1362	1362	1362	1362	
5°	1382	1387	1377	1377	1386	132
15°	1389	1442	1532	1626	1681	394
25°	1378	1517	1825	2168	2300	636
35°	1331	1604	2315	3037	3277	835
45°	1270	1708	2859	4087	4491	984
55°	1210	1782	3251	4827	5368	1083
65°	1091	1655	3152	4267	4521	1068
75°	737	1232	2135	2903	3222	771
85°	240	536	1314	1928	2137	248
90°	18	79	334	515	602	26
95°	122	77	24	19	18	143
105°	528	667	953	953	793	549
115°	773	1044	1504	2169	2727	753
125°	796	935	1838	2472	2675	710
135°	663	711	1450	2118	2304	520
145°	547	665	864	1309	1522	350
155°	536	612	608	732	794	249
165°	532	568	600	616	585	151
175°	531	524	512	487	556	51
180°	494	494	494	494	494	



TEST NUMBER: P236466

CATALOG NUMBER: SKB4-LD5-24-N-UNV-L835-CD4-U all blades horizontal

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1361.9	1361.9	1361.9	1361.9	1361.9	1361.9	1361.9	1361.9	1361.9	1361.9	1361.9
2.5°	1378.7	1379.7	1380.8	1380.8	1381.8	1381.8	1374.5	1371.3	1367.1	1361.9	1358.7
5°	1381.8	1381.8	1382.9	1383.9	1386.0	1387.1	1382.9	1380.8	1378.7	1376.6	1375.5
7.5°	1383.9	1385.0	1386.0	1388.1	1395.5	1400.7	1397.6	1399.7	1401.8	1401.8	1403.9
10°	1387.1	1388.1	1391.3	1398.6	1409.1	1420.7	1423.8	1429.1	1433.3	1435.4	1441.7
12.5°	1389.2	1390.2	1396.5	1407.0	1420.7	1435.4	1443.8	1455.3	1466.9	1480.5	1493.1
15°	1389.2	1391.3	1399.7	1413.3	1432.2	1452.2	1467.9	1491.0	1512.0	1532.0	1551.9
17.5°	1389.2	1391.3	1400.7	1420.7	1445.9	1473.2	1499.4	1532.0	1560.3	1588.7	1624.4
20°	1387.1	1389.2	1402.8	1428.0	1458.5	1495.2	1532.0	1572.9	1614.9	1658.0	1704.2
22.5°	1382.9	1387.1	1403.9	1434.3	1472.1	1520.4	1566.6	1622.3	1679.0	1735.7	1799.7
25°	1377.6	1381.8	1403.9	1439.6	1487.9	1545.6	1605.5	1676.9	1748.3	1824.9	1910.0
27.5°	1369.2	1375.5	1401.8	1444.8	1503.6	1572.9	1648.5	1735.7	1829.1	1929.9	2027.6
30°	1359.8	1367.1	1397.6	1448.0	1518.3	1601.3	1693.7	1801.8	1922.6	2041.2	2171.4
32.5°	1346.1	1354.5	1390.2	1451.1	1530.9	1630.7	1740.9	1880.6	2023.4	2173.5	2326.8
35°	1331.4	1341.9	1383.9	1453.2	1544.6	1664.3	1797.6	1964.6	2135.7	2315.3	2489.6
37.5°	1315.7	1328.3	1375.5	1455.3	1560.3	1696.8	1860.6	2048.6	2250.2	2449.7	2659.7
40°	1298.9	1314.6	1366.1	1456.4	1576.1	1734.6	1923.6	2136.8	2359.4	2592.5	2828.7
42.5°	1283.1	1301.0	1356.6	1456.4	1591.8	1771.4	1981.4	2222.9	2471.7	2729.0	2990.4
45°	1270.5	1289.4	1348.2	1456.4	1607.6	1808.1	2038.1	2306.9	2580.9	2859.2	3147.9
47.5°	1257.9	1277.9	1339.8	1455.3	1622.3	1842.8	2091.6	2380.4	2676.5	2984.1	3308.6
50°	1244.3	1266.3	1332.5	1455.3	1635.9	1874.3	2139.9	2443.4	2760.5	3097.5	3449.3
52.5°	1230.6	1252.7	1324.1	1454.3	1649.6	1898.4	2175.6	2489.6	2830.8	3188.9	3563.7
55°	1209.6	1234.8	1310.4	1450.1	1654.8	1908.9	2190.3	2521.1	2876.0	3250.8	3648.8
57.5°	1187.6	1213.8	1292.6	1440.6	1650.6	1902.6	2188.2	2531.6	2894.9	3286.5	3695.0
60°	1162.4	1187.6	1266.3	1420.7	1629.6	1878.5	2174.6	2516.9	2890.7	3287.6	3703.4
62.5°	1134.0	1156.1	1233.8	1389.2	1590.8	1837.5	2133.6	2483.3	2856.0	3250.8	3648.8
65°	1091.0	1110.9	1190.7	1343.0	1532.0	1777.7	2071.7	2416.1	2775.2	3152.1	3521.7
67.5°	1029.0	1049.0	1131.9	1278.9	1459.5	1697.9	1986.6	2315.3	2641.8	2985.2	3296.0
70°	948.2	968.1	1056.3	1191.8	1366.1	1600.2	1871.1	2168.3	2461.2	2703.8	2842.4
72.5°	849.5	872.6	961.8	1086.8	1259.0	1478.4	1728.3	1995.0	2157.8	2337.3	2580.9
75°	737.1	763.4	850.5	967.1	1134.0	1330.4	1562.4	1713.6	1899.5	2134.7	2344.7
77.5°	615.3	647.9	726.6	839.0	990.2	1170.8	1312.5	1509.9	1700.0	1894.2	2086.4
80°	489.3	526.1	596.4	700.4	834.8	954.5	1121.4	1301.0	1478.4	1669.5	1856.4
82.5°	363.3	400.1	465.2	555.5	651.0	766.5	921.9	1098.3	1293.6	1519.4	1745.1
85°	240.5	272.0	329.7	378.0	472.5	599.6	784.4	972.3	1138.2	1313.6	1482.6
87.5°	126.0	144.9	179.6	248.9	351.8	447.3	572.3	701.4	816.9	970.2	1100.4
90°	17.9	18.9	25.2	33.6	65.1	93.5	152.3	221.6	251.0	333.9	372.8
92.5°	27.3	26.3	22.1	16.8	13.7	13.7	12.6	11.6	10.5	8.4	6.3
95°	121.8	132.3	120.8	104.0	81.9	72.5	53.6	37.8	31.5	24.2	22.1
97.5°	223.7	248.9	249.9	233.1	222.6	204.8	177.5	172.2	164.9	143.9	126.0
100°	337.1	372.8	384.3	370.7	366.5	390.6	384.3	357.0	322.4	295.1	307.7
102.5°	452.6	485.1	508.2	547.1	499.8	533.4	580.7	611.1	633.2	613.2	569.1
105°	528.2	555.5	597.5	653.1	694.1	640.5	685.7	794.9	895.7	953.4	990.2
107.5°	595.4	614.3	666.8	735.0	811.7	855.8	786.5	860.0	1029.0	1196.0	1317.8
110°	674.1	686.7	715.1	809.6	893.6	1005.9	1031.1	972.3	1055.3	1245.3	1492.1



TEST NUMBER: P236466

CATALOG NUMBER: SKB4-LD5-24-N-UNV-L835-CD4-U all blades horizontal

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	732.9	736.1	727.7	842.1	954.5	1064.7	1219.1	1248.5	1217.0	1274.7	1427.0
115°	772.8	767.6	738.2	831.6	978.6	1109.9	1260.0	1449.0	1499.4	1503.6	1528.8
117.5°	794.9	785.4	758.1	814.8	975.5	1135.1	1288.4	1479.5	1676.9	1758.8	1828.1
120°	802.2	791.7	783.3	781.2	932.4	1130.9	1310.4	1485.8	1686.3	1894.2	2011.8
122.5°	801.2	792.8	804.3	748.7	881.0	1098.3	1303.1	1490.0	1670.6	1875.3	2079.0
125°	795.9	789.6	812.7	742.4	845.3	1024.8	1256.9	1469.0	1650.6	1837.5	2021.3
127.5°	783.3	780.2	809.6	746.6	797.0	948.2	1188.6	1413.3	1608.6	1791.3	1968.8
130°	762.3	762.3	790.7	762.3	744.5	884.1	1068.9	1318.8	1526.7	1718.9	1900.5
132.5°	717.2	722.4	748.7	762.3	714.0	823.2	960.8	1185.5	1396.5	1610.7	1787.1
135°	662.6	673.1	700.4	738.2	683.6	738.2	876.8	1023.8	1254.8	1450.1	1651.7
137.5°	621.6	635.3	662.6	711.9	693.0	695.1	821.1	926.1	1070.0	1293.6	1467.9
140°	587.0	601.7	629.0	682.5	696.2	661.5	726.6	857.9	952.4	1089.9	1291.5
142.5°	562.8	575.4	600.6	650.0	679.4	653.1	681.5	776.0	866.3	959.7	1070.0
145°	547.1	557.6	578.6	618.5	660.5	668.9	643.7	694.1	797.0	864.2	945.0
147.5°	547.1	551.3	563.9	590.1	640.5	663.6	644.7	655.2	697.2	810.6	854.7
150°	550.2	551.3	562.8	579.6	620.6	654.2	668.9	623.7	654.2	695.1	770.7
152.5°	540.8	546.0	567.0	584.9	611.1	644.7	654.2	654.2	615.3	646.8	674.1
155°	535.5	539.7	561.8	578.6	596.4	626.9	643.7	653.1	646.8	608.0	627.9
157.5°	534.5	536.6	553.4	570.2	587.0	605.9	631.1	640.5	644.7	648.9	623.7
160°	533.4	534.5	549.2	562.8	578.6	591.2	609.0	629.0	633.2	635.3	651.0
162.5°	532.4	533.4	545.0	559.7	570.2	581.7	591.2	605.9	618.5	625.8	629.0
165°	532.4	532.4	540.8	555.5	563.9	572.3	579.6	585.9	589.1	599.6	609.0
167.5°	532.4	532.4	536.6	547.1	558.6	561.8	566.0	571.2	570.2	570.2	570.2
170°	533.4	533.4	533.4	538.7	548.1	554.4	554.4	555.5	552.3	549.2	542.9
172.5°	532.4	531.3	531.3	531.3	534.5	537.6	540.8	541.8	536.6	531.3	522.9
175°	531.3	530.3	528.2	526.1	526.1	522.9	520.8	518.7	514.5	512.4	506.1
177.5°	530.3	529.2	527.1	524.0	521.9	516.6	511.4	505.1	495.6	489.3	479.9
180°	493.5	493.5	493.5	493.5	493.5	493.5	493.5	493.5	493.5	493.5	493.5



TEST NUMBER: P236466

CATALOG NUMBER: SKB4-LD5-24-N-UNV-L835-CD4-U all blades horizontal

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1361.9	1361.9	1361.9	1361.9	1361.9	1361.9	1361.9	1361.9
2.5°	1354.5	1350.3	1350.3	1352.4	1355.6	1355.6	1355.6	1359.8
5°	1373.4	1372.4	1374.5	1378.7	1381.8	1381.8	1380.8	1386.0
7.5°	1406.0	1407.0	1411.2	1418.6	1423.8	1424.9	1424.9	1431.2
10°	1449.0	1455.3	1466.9	1477.4	1485.8	1488.9	1491.0	1497.3
12.5°	1506.8	1517.3	1532.0	1547.7	1560.3	1566.6	1569.8	1574.0
15°	1574.0	1593.9	1616.0	1637.0	1654.8	1665.3	1670.6	1681.1
17.5°	1656.9	1684.2	1711.5	1743.0	1767.2	1781.9	1790.3	1796.6
20°	1749.3	1792.4	1833.3	1875.3	1906.8	1925.7	1935.2	1941.5
22.5°	1863.8	1920.5	1973.0	2025.5	2062.2	2092.7	2106.3	2110.5
25°	1988.7	2062.2	2134.7	2201.9	2252.3	2278.5	2293.2	2299.5
27.5°	2135.7	2231.3	2313.2	2388.8	2445.5	2488.5	2508.5	2516.9
30°	2300.6	2409.8	2512.7	2609.3	2674.4	2720.6	2745.8	2755.2
32.5°	2478.0	2617.7	2734.2	2836.1	2926.4	2975.7	3007.2	3016.7
35°	2675.4	2828.7	2973.6	3100.7	3196.2	3249.8	3267.6	3277.1
37.5°	2864.4	3054.5	3216.2	3353.7	3474.5	3561.6	3613.1	3634.1
40°	3062.9	3270.8	3455.6	3636.2	3806.3	3921.8	3981.6	4001.6
42.5°	3250.8	3490.2	3719.1	3931.2	4099.2	4183.2	4231.5	4250.4
45°	3445.1	3720.2	3977.4	4196.9	4349.1	4424.7	4474.1	4490.9
47.5°	3634.1	3936.5	4216.8	4438.4	4614.8	4731.3	4799.6	4823.7
50°	3801.0	4131.8	4425.8	4671.5	4843.7	4934.0	4988.6	5014.8
52.5°	3942.8	4288.2	4595.9	4825.8	5000.1	5110.4	5179.7	5207.0
55°	4034.1	4396.4	4705.1	4949.7	5135.6	5255.3	5331.9	5367.6
57.5°	4089.8	4454.1	4764.9	5014.8	5210.1	5336.1	5415.9	5460.0
60°	4085.6	4438.4	4747.1	4992.8	5178.6	5309.9	5394.9	5446.4
62.5°	4015.2	4340.7	4620.0	4824.8	4977.0	5031.6	5040.0	5078.9
65°	3848.3	4098.2	4230.5	4304.0	4402.7	4460.4	4483.5	4521.3
67.5°	3445.1	3577.4	3755.9	3917.6	4060.4	4138.1	4184.3	4214.7
70°	3044.0	3268.7	3465.0	3623.6	3739.1	3819.9	3843.0	3880.8
72.5°	2796.2	2989.4	3155.3	3284.4	3384.2	3445.1	3453.5	3467.1
75°	2517.9	2670.2	2830.8	2974.7	3090.2	3157.4	3202.5	3222.5
77.5°	2269.1	2437.1	2596.7	2741.6	2865.5	2939.0	2985.2	3002.0
80°	2044.4	2253.3	2450.7	2612.4	2747.9	2846.6	2881.2	2894.9
82.5°	1941.5	2116.8	2269.1	2379.3	2472.8	2522.1	2533.7	2535.8
85°	1638.0	1765.1	1880.6	1976.1	2063.3	2118.9	2139.9	2136.8
87.5°	1228.5	1332.5	1438.5	1528.8	1618.1	1681.1	1704.2	1702.1
90°	440.0	440.0	498.8	531.3	622.7	680.4	660.5	601.7
92.5°	4.2	4.2	3.2	2.1	2.1	1.1	1.1	1.1
95°	20.0	20.0	18.9	18.9	18.9	17.9	17.9	17.9
97.5°	101.9	91.4	76.7	67.2	54.6	47.3	46.2	44.1
100°	308.7	303.5	287.7	278.3	264.6	254.1	251.0	251.0
102.5°	512.4	464.1	451.5	462.0	473.6	477.8	477.8	480.9
105°	1010.1	1004.9	978.6	928.2	868.4	813.8	793.8	792.8
107.5°	1406.0	1484.7	1540.4	1566.6	1580.3	1569.8	1566.6	1579.2
110°	1677.9	1827.0	1952.0	2039.1	2096.9	2113.7	2126.3	2142.0



TEST NUMBER: P236466

CATALOG NUMBER: SKB4-LD5-24-N-UNV-L835-CD4-U all blades horizontal

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1679.0	1954.1	2191.4	2336.3	2435.0	2478.0	2503.2	2521.1
115°	1641.2	1802.9	2055.9	2281.7	2486.4	2621.9	2694.3	2726.9
117.5°	1821.8	1871.1	1988.7	2100.0	2212.4	2305.8	2365.7	2390.9
120°	2074.8	2137.8	2149.4	2185.1	2246.0	2268.0	2281.7	2295.3
122.5°	2211.3	2267.0	2343.6	2420.3	2464.4	2500.1	2526.3	2545.2
125°	2231.3	2351.0	2449.7	2493.8	2519.0	2563.1	2637.6	2675.4
127.5°	2137.8	2309.0	2467.5	2522.1	2579.9	2592.5	2604.0	2609.3
130°	2062.2	2213.4	2330.0	2447.6	2545.2	2588.3	2595.6	2595.6
132.5°	1963.5	2090.6	2222.9	2319.5	2374.1	2414.0	2439.2	2449.7
135°	1807.1	1954.1	2074.8	2162.0	2239.7	2278.5	2295.3	2303.7
137.5°	1640.1	1775.6	1893.2	2008.7	2089.5	2131.5	2147.3	2151.5
140°	1440.6	1569.8	1702.1	1808.1	1880.6	1934.1	1960.4	1964.6
142.5°	1241.1	1374.5	1476.3	1569.8	1655.9	1723.1	1758.8	1768.2
145°	1024.8	1136.1	1262.1	1356.6	1432.2	1479.5	1509.9	1521.5
147.5°	913.5	975.5	1030.1	1100.4	1175.0	1244.3	1286.3	1295.7
150°	835.8	871.5	913.5	953.4	984.9	1003.8	1018.5	1010.1
152.5°	721.4	821.1	841.1	856.8	869.4	884.1	875.7	875.7
155°	648.9	673.1	714.0	750.8	819.0	800.1	795.9	793.8
157.5°	603.8	614.3	632.1	637.4	634.2	629.0	632.1	624.8
160°	637.4	613.2	580.7	579.6	563.9	555.5	551.3	547.1
162.5°	630.0	636.3	636.3	620.6	596.4	570.2	554.4	549.2
165°	615.3	617.4	619.5	613.2	606.9	593.3	585.9	584.9
167.5°	574.4	584.9	593.3	600.6	605.9	597.5	582.8	578.6
170°	539.7	540.8	542.9	551.3	563.9	567.0	558.6	534.5
172.5°	514.5	511.4	510.3	517.7	534.5	548.1	553.4	567.0
175°	495.6	486.2	483.0	490.4	508.2	528.2	550.2	555.5
177.5°	467.3	455.7	449.4	456.8	473.6	499.8	526.1	529.2
180°	493.5	493.5	493.5	493.5	493.5	493.5	493.5	493.5

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