

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: P236526

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236526
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24075)
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: SKB4-LD5-24-W-UNV-L835-CD4-U all blades horizontal
Description: METALUX SKYBAR LED WAVESTREAM LUMINAIRE
4 BLADES WITH WIDE DISTRIBUTION LENS, ALL BLADES HORIZONTAL
Light Source: (952) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

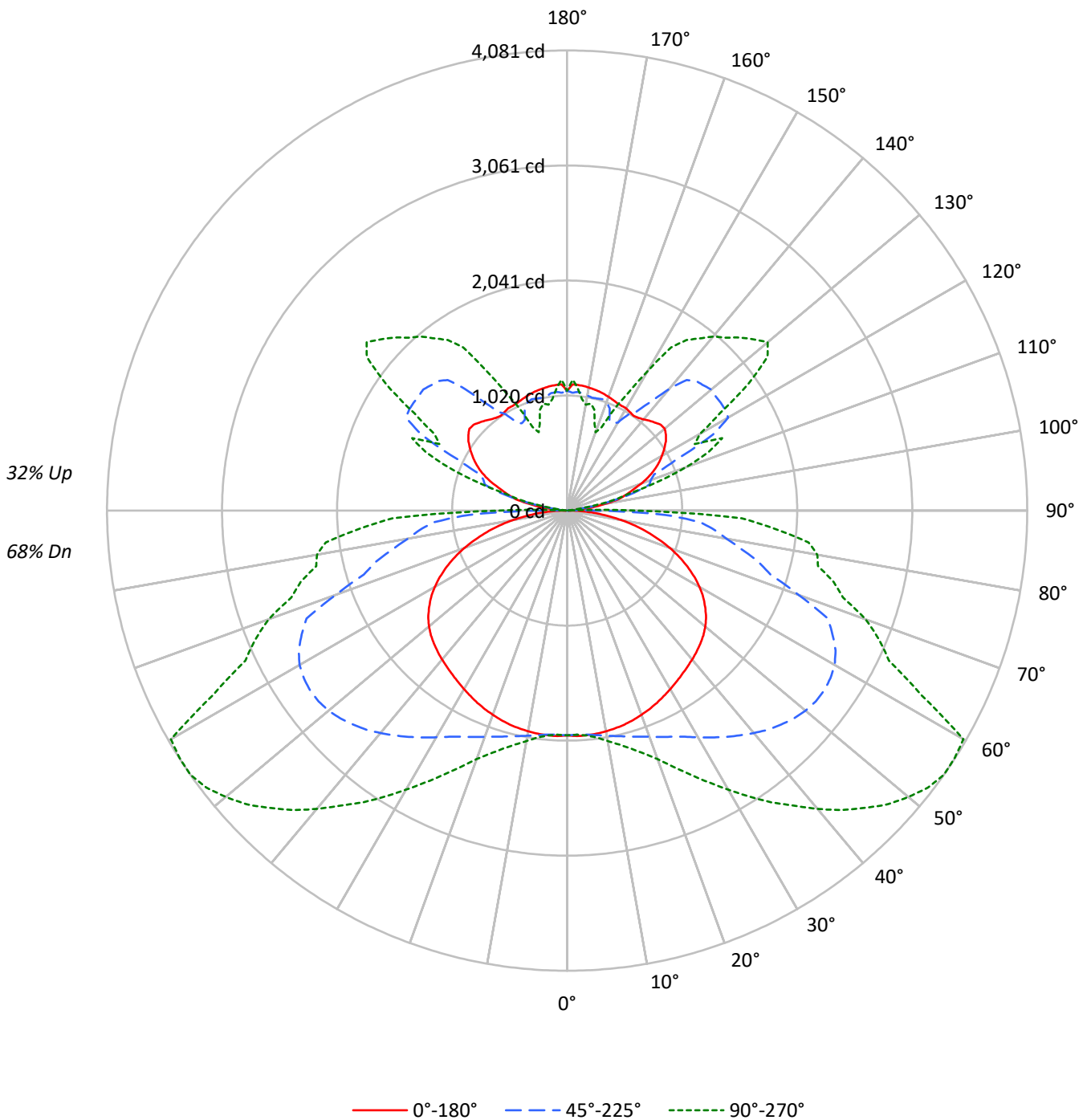
Lumens per Lamp: N/A
Luminaire Lumens: 19344.0 lumens
Efficiency: N/A
Efficacy: 93.8 lumens/watt
Spacing Criteria (0/90/45): 1.37 / 2.46 / 2.11
Luminous Opening: Rectangular (W 1.88' x L: 4' x H: 0')
CIE Type: Semi-Direct

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-W-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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	112	112	112	112	105	105	105	105	94	94	94	83	83	83	73	73	73
1	99	93	87	83	93	87	83	78	77	74	70	68	65	62	59	57	55
2	88	78	71	64	82	74	67	61	65	59	55	57	53	49	50	46	43
3	79	67	58	51	74	63	55	48	56	49	44	49	43	39	42	38	34
4	71	58	49	42	67	55	46	40	48	41	36	42	37	32	37	32	28
5	65	51	42	35	61	48	40	33	43	35	30	37	31	27	32	27	23
6	60	45	36	29	56	43	34	28	38	31	25	33	27	22	29	24	20
7	55	41	32	25	51	38	30	24	34	27	22	30	24	19	26	21	17
8	51	37	28	22	47	35	26	21	31	24	19	27	21	17	23	19	15
9	47	33	25	19	44	31	24	18	28	21	17	25	19	15	21	17	13
10	44	30	22	17	41	29	21	16	26	19	15	23	17	13	20	15	12

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2861	2861	2861
5°	2881	2873	2884
10°	2896	2955	3025
15°	2918	3081	3247
20°	2943	3260	3582
25°	2980	3504	4089
30°	3030	3847	4735
35°	3110	4292	5534
40°	3231	4825	6470
45°	3388	5448	7568
50°	3570	6163	8821
55°	3739	6961	10212
60°	3895	7863	11648
65°	4000	8819	10696
70°	4064	9159	11818
75°	4090	9735	13570
80°	4048	11839	18620
85°	3983	19494	30357



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	192.1	1.0
10°-20°	591.4	3.1
20°-30°	1036.3	5.4
30°-40°	1550.8	8.0
40°-50°	2090.0	10.8
50°-60°	2495.2	12.9
60°-70°	2359.2	12.2
70°-80°	1802.1	9.3
80°-90°	1124.4	5.8
90°-100°	120.1	0.6
100°-110°	631.4	3.3
110°-120°	1108.5	5.7
120°-130°	1383.2	7.2
130°-140°	1204.1	6.2
140°-150°	804.1	4.2
150°-160°	462.6	2.4
160°-170°	288.2	1.5
170°-180°	100.6	0.5
0°-30°	1819.8	9.4
0°-40°	3370.6	17.4
0°-60°	7955.7	41.1
0°-90°	13241.4	68.5
90°-120°	1859.9	9.6
90°-150°	5251.2	27.1
90°-180°	6103.0	31.5
0°-180°	19344.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1993	1993	1993	1993	1993	
5°	2000	2010	1994	2001	2002	191
15°	1964	2008	2074	2153	2185	555
25°	1882	1988	2213	2482	2582	869
35°	1775	1965	2450	2976	3159	1114
45°	1669	1959	2684	3461	3729	1290
55°	1494	1899	2782	3739	4081	1334
65°	1178	1646	2597	3013	3150	1161
75°	738	1206	1756	2239	2447	775
85°	242	527	1184	1641	1844	248
90°	10	64	244	475	608	22
95°	126	67	12	7	4	148
105°	540	614	618	593	546	564
115°	855	1053	1065	1196	1518	839
125°	1068	1119	1664	2044	1969	951
135°	1103	913	1622	2009	2170	853
145°	1026	966	1072	1679	1846	652
155°	1052	1016	887	969	998	488
165°	1093	1075	1029	1030	928	309
175°	1118	1107	1056	978	1086	106
180°	1062	1062	1062	1062	1062	



TEST NUMBER: P236526

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

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1993.4	1993.4	1993.4	1993.4	1993.4	1993.4	1993.4	1993.4	1993.4	1993.4	1993.4
2.5°	2001.7	2001.7	2006.8	2006.8	2010.1	2010.1	2007.6	2001.7	1997.5	1989.2	1984.2
5°	2000.1	1999.2	2005.9	2005.9	2010.1	2010.1	2007.6	2004.2	2000.1	1994.2	1991.7
7.5°	1995.9	1995.9	2001.7	2003.4	2008.4	2011.8	2012.6	2010.9	2010.9	2008.4	2007.6
10°	1987.5	1989.2	1995.9	2001.7	2014.3	2022.7	2026.8	2028.5	2029.4	2027.7	2029.4
12.5°	1977.5	1979.1	1990.0	1998.4	2005.9	2016.0	2024.3	2032.7	2041.9	2048.6	2057.0
15°	1964.1	1965.7	1976.6	1984.2	1999.2	2016.0	2030.2	2044.4	2061.2	2073.7	2086.3
17.5°	1948.2	1949.8	1959.9	1972.4	1994.2	2016.0	2036.1	2057.8	2082.1	2102.2	2123.1
20°	1927.2	1929.7	1942.3	1959.0	1985.8	2014.3	2041.9	2072.1	2105.5	2134.8	2165.0
22.5°	1906.3	1908.0	1923.9	1944.8	1976.6	2011.8	2046.9	2087.1	2130.7	2171.7	2214.4
25°	1882.0	1883.7	1902.9	1928.9	1966.6	2009.3	2054.5	2103.0	2160.8	2212.7	2269.6
27.5°	1855.2	1857.7	1881.2	1912.2	1955.7	2006.8	2062.0	2123.1	2192.6	2261.3	2336.6
30°	1828.4	1830.9	1857.7	1893.7	1944.8	2005.1	2071.2	2144.1	2233.6	2321.5	2412.8
32.5°	1801.6	1805.8	1836.0	1876.2	1934.8	2004.2	2082.9	2172.5	2283.0	2385.2	2493.2
35°	1774.9	1779.0	1813.4	1858.6	1925.5	2005.1	2096.3	2206.0	2333.3	2449.6	2573.5
37.5°	1748.9	1754.8	1791.6	1842.7	1916.3	2008.4	2116.4	2242.0	2381.8	2513.3	2653.1
40°	1724.6	1730.5	1769.8	1826.8	1908.8	2012.6	2139.0	2278.0	2432.9	2575.2	2730.9
42.5°	1698.7	1705.4	1748.1	1810.0	1900.4	2021.0	2160.0	2314.0	2478.9	2635.5	2799.6
45°	1669.4	1677.7	1722.1	1789.9	1889.5	2027.7	2178.4	2345.0	2517.4	2684.0	2865.7
47.5°	1638.4	1645.9	1692.8	1767.3	1877.8	2030.2	2190.1	2362.6	2545.9	2728.4	2923.5
50°	1599.0	1607.4	1656.8	1738.0	1862.8	2026.0	2190.1	2373.4	2567.7	2760.2	2967.0
52.5°	1553.0	1562.2	1614.9	1702.9	1840.2	2013.5	2182.6	2372.6	2574.4	2779.5	2996.3
55°	1494.4	1506.9	1563.0	1661.0	1810.9	1986.7	2157.4	2357.5	2568.5	2782.0	3008.0
57.5°	1431.6	1441.6	1502.8	1610.8	1769.8	1945.6	2123.1	2328.2	2545.1	2768.6	3003.9
60°	1357.1	1367.1	1434.1	1551.3	1714.6	1886.2	2073.7	2280.5	2509.1	2739.3	2975.4
62.5°	1271.7	1282.6	1354.6	1482.7	1644.2	1816.7	2009.3	2223.6	2457.2	2684.0	2910.1
65°	1177.9	1188.8	1268.3	1404.0	1555.5	1735.5	1934.8	2152.4	2382.7	2597.0	2828.9
67.5°	1076.6	1090.0	1179.6	1314.4	1463.4	1642.6	1845.2	2062.0	2277.2	2502.4	2602.8
70°	968.6	984.5	1080.8	1208.9	1357.9	1540.4	1742.2	1945.6	2162.5	2182.6	2155.8
72.5°	854.8	877.4	979.5	1095.9	1243.2	1424.1	1612.4	1819.2	1796.6	1890.4	2036.9
75°	737.6	764.4	867.3	975.3	1122.7	1290.1	1481.8	1486.0	1617.5	1755.6	1883.7
77.5°	615.3	657.2	744.3	851.4	987.9	1152.8	1198.9	1324.4	1459.2	1584.8	1718.8
80°	489.8	542.5	616.2	720.0	848.1	900.8	1022.2	1156.2	1301.0	1432.4	1551.3
82.5°	364.2	420.3	484.7	571.8	623.7	728.4	861.5	997.9	1153.7	1321.1	1486.0
85°	241.9	286.3	334.0	379.2	466.3	588.5	765.2	932.6	1074.1	1183.8	1305.2
87.5°	118.0	147.3	181.7	261.2	374.2	455.4	552.5	654.7	761.8	870.7	988.7
90°	10.0	11.7	13.4	25.1	50.2	77.0	129.8	156.6	211.0	244.5	303.1
92.5°	20.1	17.6	11.7	8.4	7.5	6.7	5.0	4.2	2.5	0.8	0.0
95°	126.4	136.5	114.7	85.4	74.5	60.3	37.7	25.1	16.7	11.7	9.2
97.5°	232.7	261.2	258.7	218.5	198.4	180.0	151.5	154.9	136.5	113.0	92.1
100°	348.3	396.8	386.8	359.2	334.9	328.2	306.4	294.7	263.7	252.0	263.7
102.5°	464.6	503.2	512.4	539.2	465.5	455.4	456.3	456.3	448.7	437.9	420.3
105°	540.0	571.8	606.1	637.1	679.0	550.0	538.3	584.4	614.5	617.8	621.2
107.5°	607.8	629.6	689.0	729.2	776.1	806.2	628.7	631.2	712.5	764.4	802.9
110°	699.1	707.4	743.4	826.3	867.3	941.0	928.4	739.2	709.9	788.6	925.1



TEST NUMBER: P236526

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

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	781.9	780.3	767.7	895.8	951.1	1012.2	1122.7	1091.7	882.4	832.2	861.5
115°	854.8	841.4	792.0	910.9	1023.1	1083.3	1175.4	1313.6	1266.7	1064.9	980.4
117.5°	915.9	894.1	847.2	908.4	1082.5	1148.6	1229.0	1351.2	1491.9	1458.4	1311.9
120°	970.3	946.9	915.1	900.0	1077.5	1211.4	1291.8	1390.6	1519.5	1649.3	1660.2
122.5°	1020.5	996.3	986.2	891.6	1037.3	1256.6	1336.2	1430.8	1537.9	1662.7	1785.7
125°	1068.3	1040.6	1039.0	900.8	1002.1	1236.5	1383.0	1471.0	1559.7	1664.3	1782.4
127.5°	1105.1	1077.5	1075.0	929.3	974.5	1153.7	1396.4	1489.4	1582.3	1661.8	1775.7
130°	1130.2	1105.9	1091.7	988.7	929.3	1081.7	1317.7	1499.4	1575.6	1668.5	1759.8
132.5°	1126.9	1107.6	1083.3	1028.1	903.3	1022.2	1187.1	1441.6	1565.6	1642.6	1751.4
135°	1103.4	1091.7	1064.1	1047.3	895.8	930.1	1078.3	1284.3	1518.7	1622.5	1710.4
137.5°	1080.8	1075.0	1044.0	1043.1	930.1	889.9	1013.0	1144.4	1369.6	1570.6	1669.4
140°	1054.9	1054.0	1025.6	1026.4	969.5	863.1	915.9	1042.3	1198.0	1407.3	1593.2
142.5°	1036.4	1038.1	1009.7	1005.5	992.1	876.5	878.2	989.6	1069.1	1212.3	1411.5
145°	1026.4	1027.2	1000.4	990.4	992.9	939.3	854.8	893.3	1011.3	1071.6	1208.9
147.5°	1035.6	1030.6	995.4	976.2	988.7	971.1	884.1	861.5	902.5	1011.3	1062.4
150°	1048.2	1042.3	1009.7	977.8	983.7	998.8	961.1	874.9	869.8	902.5	1007.1
152.5°	1046.5	1049.0	1034.8	1008.8	1002.1	1012.2	998.8	951.9	878.2	872.4	899.1
155°	1051.5	1052.4	1048.2	1026.4	1013.8	1017.2	1010.5	994.6	956.9	886.6	872.4
157.5°	1062.4	1063.2	1056.5	1038.1	1023.9	1020.5	1020.5	1018.9	1004.6	982.9	911.7
160°	1073.3	1074.1	1071.6	1057.4	1042.3	1033.1	1028.1	1032.3	1030.6	1023.1	1003.8
162.5°	1084.2	1083.3	1085.8	1076.6	1060.7	1051.5	1039.0	1036.4	1036.4	1036.4	1035.6
165°	1093.4	1092.5	1095.9	1092.5	1081.7	1067.4	1054.0	1042.3	1035.6	1028.9	1033.1
167.5°	1100.9	1100.1	1102.6	1103.4	1098.4	1086.7	1069.1	1056.5	1041.5	1025.6	1017.2
170°	1107.6	1106.8	1108.4	1110.1	1106.8	1100.9	1083.3	1071.6	1055.7	1034.8	1014.7
172.5°	1114.3	1111.8	1111.8	1111.8	1109.3	1104.3	1091.7	1081.7	1069.1	1051.5	1030.6
175°	1118.5	1116.0	1115.1	1112.6	1109.3	1104.3	1092.5	1081.7	1069.1	1055.7	1039.0
177.5°	1120.2	1117.7	1116.0	1113.5	1109.3	1103.4	1090.9	1078.3	1063.2	1046.5	1031.4
180°	1061.6	1061.6	1061.6	1061.6	1061.6	1061.6	1061.6	1061.6	1061.6	1061.6	1061.6



TEST NUMBER: P236526

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1993.4	1993.4	1993.4	1993.4	1993.4	1993.4	1993.4	1993.4
2.5°	1980.8	1984.2	1985.8	1989.2	1988.3	1989.2	1994.2	1989.2
5°	1990.8	1995.9	1999.2	2003.4	2002.6	2002.6	2005.9	2001.7
7.5°	2009.3	2017.6	2024.3	2030.2	2029.4	2031.0	2036.1	2030.2
10°	2034.4	2046.9	2056.1	2065.4	2068.7	2071.2	2077.9	2075.4
12.5°	2066.2	2084.6	2098.0	2109.7	2114.8	2120.6	2128.1	2124.0
15°	2103.9	2127.3	2144.9	2160.8	2169.2	2178.4	2188.4	2185.1
17.5°	2148.2	2180.1	2201.8	2225.3	2237.8	2249.5	2262.1	2257.1
20°	2201.8	2243.7	2274.7	2304.0	2321.5	2339.1	2350.0	2345.0
22.5°	2261.3	2317.4	2360.1	2400.2	2426.2	2445.4	2460.5	2458.8
25°	2334.9	2404.4	2458.8	2504.9	2540.9	2565.2	2583.6	2581.9
27.5°	2419.5	2501.5	2567.7	2623.8	2668.1	2700.0	2714.2	2715.9
30°	2510.7	2607.9	2686.6	2753.5	2804.6	2839.8	2854.8	2857.3
32.5°	2606.2	2719.2	2807.9	2883.3	2942.7	2983.8	2998.8	3007.2
35°	2700.8	2826.4	2931.9	3020.6	3085.1	3130.3	3146.2	3158.7
37.5°	2794.6	2938.6	3054.1	3150.4	3221.5	3272.6	3292.7	3296.0
40°	2885.8	3039.0	3172.1	3284.3	3364.7	3418.3	3443.4	3453.4
42.5°	2972.0	3143.7	3288.5	3414.1	3504.5	3559.8	3592.4	3602.4
45°	3054.1	3241.6	3395.7	3526.3	3620.0	3682.0	3718.8	3728.9
47.5°	3122.7	3321.2	3489.4	3633.4	3734.7	3804.2	3841.0	3856.1
50°	3180.5	3391.5	3570.6	3721.3	3824.3	3896.3	3937.3	3950.7
52.5°	3223.2	3435.8	3620.9	3780.8	3891.3	3973.3	4015.2	4034.4
55°	3243.3	3466.0	3656.9	3821.0	3930.6	4015.2	4059.6	4081.3
57.5°	3243.3	3466.8	3648.5	3800.0	3907.2	3996.8	4055.4	4077.1
60°	3203.9	3415.8	3610.8	3779.9	3896.3	3984.2	4047.0	4057.9
62.5°	3144.5	3361.3	3556.4	3599.9	3567.3	3531.3	3525.4	3538.0
65°	3061.6	3052.4	3030.6	2994.6	3029.0	3096.8	3128.6	3149.5
67.5°	2559.3	2580.2	2705.0	2802.9	2874.1	2932.7	2974.6	2996.3
70°	2306.5	2446.3	2567.7	2669.8	2726.7	2773.6	2797.1	2816.3
72.5°	2179.2	2291.4	2378.5	2454.7	2498.2	2540.9	2552.6	2565.2
75°	1999.2	2095.5	2192.6	2285.5	2355.0	2406.9	2434.6	2447.1
77.5°	1854.4	1960.7	2045.3	2130.7	2190.9	2233.6	2257.9	2278.8
80°	1676.9	1812.5	1938.1	2052.0	2134.8	2195.1	2236.1	2252.9
82.5°	1640.9	1779.0	1900.4	1995.0	2064.5	2118.1	2145.7	2158.3
85°	1410.7	1503.6	1595.7	1686.1	1758.9	1810.9	1836.0	1843.5
87.5°	1091.7	1188.0	1301.8	1377.2	1453.4	1512.8	1544.6	1550.5
90°	344.9	387.6	462.1	488.1	529.1	576.8	605.3	607.8
92.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
95°	8.4	7.5	6.7	6.7	5.9	5.0	4.2	4.2
97.5°	77.0	57.8	46.0	36.8	29.3	26.0	25.1	25.1
100°	263.7	249.5	232.7	228.6	215.2	205.9	196.7	197.6
102.5°	401.0	371.7	379.2	396.0	405.2	408.6	404.4	406.9
105°	622.9	610.3	595.2	591.1	580.2	560.9	545.0	545.9
107.5°	824.6	836.4	843.9	845.6	841.4	835.5	824.6	826.3
110°	984.5	1035.6	1072.4	1103.4	1112.6	1110.1	1114.3	1117.7



TEST NUMBER: P236526

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

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	983.7	1161.2	1233.2	1286.8	1319.4	1337.8	1350.4	1358.8
115°	960.3	1020.5	1131.9	1259.1	1404.0	1481.0	1505.3	1517.8
117.5°	1188.8	1150.3	1150.3	1134.4	1179.6	1238.2	1265.8	1276.7
120°	1569.7	1436.6	1384.7	1359.6	1358.8	1366.3	1357.9	1357.9
122.5°	1862.8	1815.9	1755.6	1697.0	1635.9	1620.0	1604.1	1606.6
125°	1914.7	2028.5	2049.5	2039.4	2018.5	1991.7	1969.1	1969.1
127.5°	1887.0	2029.4	2125.6	2201.8	2257.1	2244.5	2238.7	2239.5
130°	1871.1	1983.3	2082.9	2182.6	2252.9	2294.7	2314.8	2322.4
132.5°	1850.2	1941.5	2034.4	2113.1	2167.5	2213.5	2237.8	2247.0
135°	1806.7	1908.0	1976.6	2041.9	2098.0	2141.5	2158.3	2170.0
137.5°	1748.9	1833.5	1913.8	1990.0	2038.6	2066.2	2073.7	2078.8
140°	1695.3	1766.5	1832.6	1891.2	1944.0	1990.0	2007.6	2014.3
142.5°	1591.5	1702.0	1755.6	1807.5	1850.2	1893.7	1917.2	1923.0
145°	1363.8	1537.1	1640.1	1717.9	1765.6	1805.0	1827.6	1846.0
147.5°	1176.3	1297.7	1399.0	1515.3	1599.0	1671.0	1707.9	1716.2
150°	1047.3	1120.2	1192.2	1260.0	1327.8	1389.7	1423.2	1429.1
152.5°	947.7	1039.8	1064.1	1089.2	1133.6	1171.2	1177.1	1182.1
155°	879.9	900.0	937.7	999.6	1033.1	1024.7	1010.5	997.9
157.5°	877.4	864.0	869.8	874.0	862.3	844.7	819.6	802.0
160°	977.0	910.0	879.9	856.4	819.6	782.8	743.4	739.2
162.5°	1030.6	1011.3	995.4	969.5	901.7	833.8	809.6	806.2
165°	1036.4	1036.4	1034.8	1024.7	984.5	943.5	929.3	928.4
167.5°	1014.7	1020.5	1023.9	1027.2	1014.7	994.6	974.5	971.1
170°	998.8	995.4	994.6	992.1	1004.6	1002.1	977.0	952.7
172.5°	1003.8	989.6	980.4	977.8	1000.4	1023.1	1007.1	997.1
175°	1011.3	987.9	974.5	981.2	1008.0	1052.4	1077.5	1085.8
177.5°	1004.6	974.5	959.4	974.5	1007.1	1066.6	1133.6	1161.2
180°	1061.6	1061.6	1061.6	1061.6	1061.6	1061.6	1061.6	1061.6

(END OF REPORT)