

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: P236473

Luminaire Tested: **SKB4-LD5-36-N-UNV-L840-CD4-U all blades horizontal**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236473
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-LD5-36-N-UNV-L840-CD4-U all blades horizontal
Description: METALUX SKYBAR LED WAVESTREAM LUMINAIRE
4 BLADES WITH NARROW DISTRIBUTION LENS, ALL BLADES HORIZONTAL
Light Source: (952) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

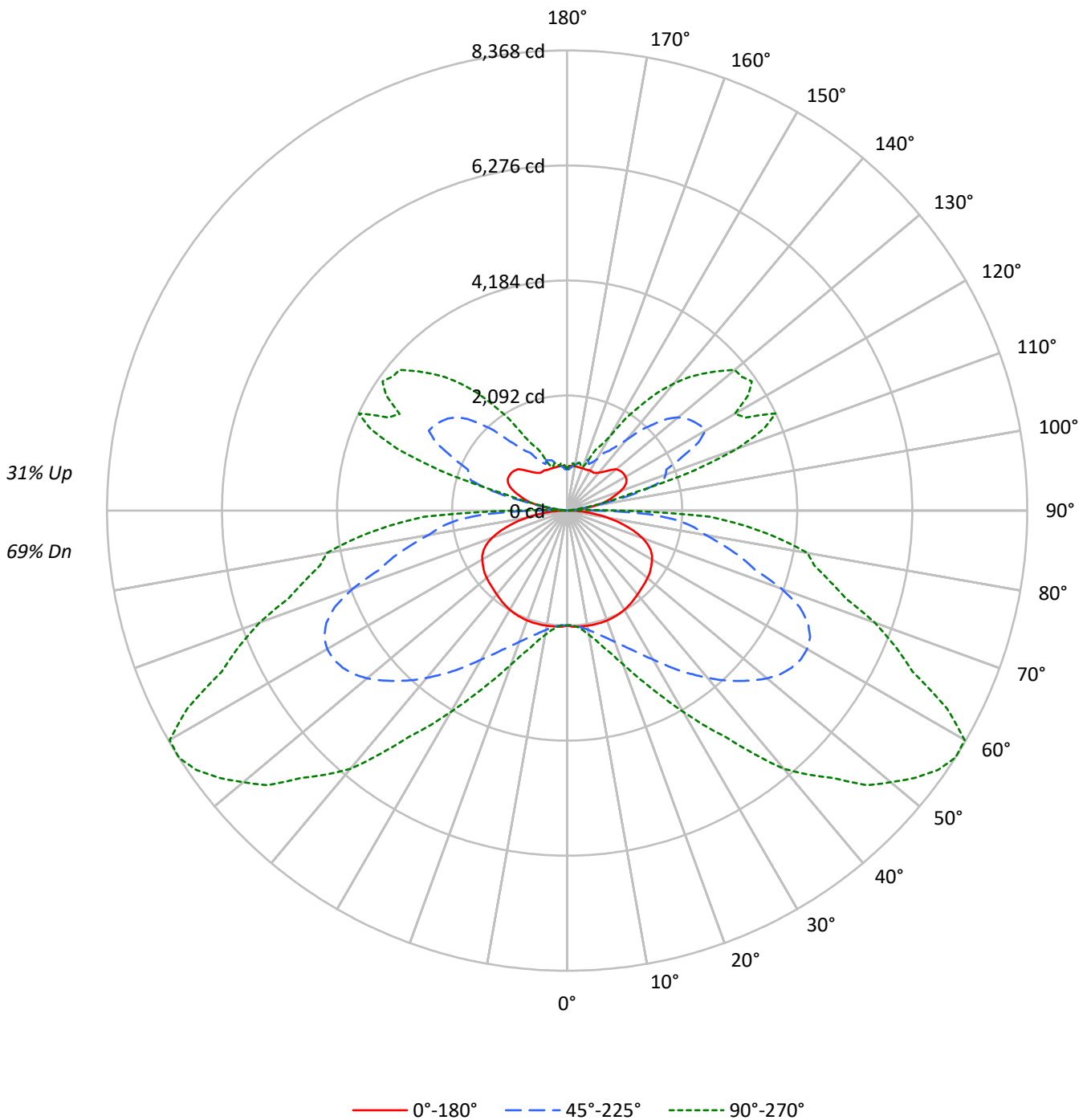
Lumens per Lamp: N/A
Luminaire Lumens: 31962.0 lumens
Efficiency: N/A
Efficacy: 95.8 lumens/watt
Spacing Criteria (0/90/45): 1.49 / 3.46 / 2.71
Luminous Opening: Rectangular (W 1.88' x L: 4' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 333.5
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-LD5-36-N-UNV-L840-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°	2996	2996	2996
5°	3051	3039	3060
10°	3098	3206	3344
15°	3163	3488	3828
20°	3247	3881	4544
25°	3343	4429	5581
30°	3453	5184	6998
35°	3575	6217	8799
40°	3729	7444	11490
45°	3952	8894	13969
50°	4258	10599	17160
55°	4639	12466	20584
60°	5113	14462	23959
65°	5678	16405	23532
70°	6098	17388	24958
75°	6264	18141	27386
80°	6198	21147	36668
85°	6068	33150	53926



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	204.8	0.6
10°-20°	673.8	2.1
20°-30°	1317.3	4.1
30°-40°	2247.3	7.0
40°-50°	3430.3	10.7
50°-60°	4485.0	14.0
60°-70°	4493.1	14.1
70°-80°	3367.7	10.5
80°-90°	1965.9	6.2
90°-100°	217.8	0.7
100°-110°	1345.0	4.2
110°-120°	2387.8	7.5
120°-130°	2355.8	7.4
130°-140°	1723.4	5.4
140°-150°	941.9	2.9
150°-160°	475.7	1.5
160°-170°	252.4	0.8
170°-180°	77.0	0.2
0°-30°	2195.9	6.9
0°-40°	4443.2	13.9
0°-60°	12358.5	38.7
0°-90°	22185.2	69.4
90°-120°	3950.5	12.4
90°-150°	8971.7	28.1
90°-180°	9777.0	30.6
0°-180°	31962.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2087	2087	2087	2087	2087	
5°	2118	2125	2110	2110	2124	202
15°	2129	2210	2348	2493	2576	603
25°	2111	2325	2797	3323	3524	975
35°	2040	2459	3548	4655	5022	1280
45°	1947	2617	4382	6264	6883	1507
55°	1854	2731	4982	7398	8226	1660
65°	1672	2536	4831	6540	6929	1637
75°	1130	1888	3272	4449	4939	1181
85°	368	822	2013	2955	3275	380
90°	27	122	512	789	922	40
95°	187	118	37	29	27	220
105°	809	1023	1461	1461	1215	842
115°	1184	1600	2304	3324	4179	1154
125°	1220	1433	2816	3788	4100	1088
135°	1015	1089	2222	3247	3531	797
145°	838	1019	1324	2007	2332	536
155°	821	937	932	1122	1217	382
165°	816	871	919	945	896	231
175°	814	804	785	746	851	78
180°	756	756	756	756	756	



TEST NUMBER: P236473

CATALOG NUMBER: SKB4-LD5-36-N-UNV-L840-CD4-U all blades horizontal

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2087.2	2087.2	2087.2	2087.2	2087.2	2087.2	2087.2	2087.2	2087.2	2087.2	2087.2
2.5°	2112.9	2114.5	2116.1	2116.1	2117.7	2117.7	2106.5	2101.6	2095.2	2087.2	2082.3
5°	2117.7	2117.7	2119.3	2120.9	2124.2	2125.8	2119.3	2116.1	2112.9	2109.7	2108.1
7.5°	2120.9	2122.6	2124.2	2127.4	2138.6	2146.7	2141.9	2145.1	2148.3	2148.3	2151.5
10°	2125.8	2127.4	2132.2	2143.5	2159.6	2177.3	2182.1	2190.1	2196.6	2199.8	2209.5
12.5°	2129.0	2130.6	2140.3	2156.4	2177.3	2199.8	2212.7	2230.4	2248.1	2269.0	2288.3
15°	2129.0	2132.2	2145.1	2166.0	2195.0	2225.5	2249.7	2285.1	2317.3	2347.8	2378.4
17.5°	2129.0	2132.2	2146.7	2177.3	2215.9	2257.7	2298.0	2347.8	2391.3	2434.7	2489.5
20°	2125.8	2129.0	2149.9	2188.5	2235.2	2291.5	2347.8	2410.6	2475.0	2541.0	2611.8
22.5°	2119.3	2125.8	2151.5	2198.2	2256.1	2330.1	2401.0	2486.2	2573.1	2660.0	2758.2
25°	2111.3	2117.7	2151.5	2206.2	2280.3	2368.8	2460.5	2569.9	2679.3	2796.8	2927.2
27.5°	2098.4	2108.1	2148.3	2214.3	2304.4	2410.6	2526.5	2660.0	2803.3	2957.7	3107.4
30°	2083.9	2095.2	2141.9	2219.1	2326.9	2454.1	2595.7	2761.4	2946.5	3128.3	3327.9
32.5°	2063.0	2075.9	2130.6	2223.9	2346.2	2499.1	2668.1	2882.1	3101.0	3331.1	3566.0
35°	2040.5	2056.6	2120.9	2227.2	2367.2	2550.6	2755.0	3010.8	3273.1	3548.3	3815.5
37.5°	2016.3	2035.7	2108.1	2230.4	2391.3	2600.5	2851.5	3139.6	3448.6	3754.3	4076.1
40°	1990.6	2014.7	2093.6	2232.0	2415.4	2658.4	2948.1	3274.8	3615.9	3973.2	4335.2
42.5°	1966.5	1993.8	2079.1	2232.0	2439.6	2714.7	3036.6	3406.7	3788.1	4182.4	4583.0
45°	1947.2	1976.1	2066.2	2232.0	2463.7	2771.1	3123.5	3535.4	3955.5	4381.9	4824.4
47.5°	1927.8	1958.4	2053.4	2230.4	2486.2	2824.2	3205.6	3648.1	4101.9	4573.4	5070.6
50°	1906.9	1940.7	2042.1	2230.4	2507.2	2872.5	3279.6	3744.6	4230.6	4747.2	5286.3
52.5°	1886.0	1919.8	2029.2	2228.8	2528.1	2909.5	3334.3	3815.5	4338.4	4887.2	5461.7
55°	1853.8	1892.4	2008.3	2222.3	2536.1	2925.6	3356.8	3863.7	4407.6	4982.1	5592.0
57.5°	1820.0	1860.3	1980.9	2207.8	2529.7	2915.9	3353.6	3879.8	4436.6	5036.8	5662.8
60°	1781.4	1820.0	1940.7	2177.3	2497.5	2878.9	3332.7	3857.3	4430.2	5038.5	5675.7
62.5°	1738.0	1771.7	1890.8	2129.0	2438.0	2816.1	3269.9	3805.8	4377.1	4982.1	5592.0
65°	1672.0	1702.6	1824.9	2058.2	2347.8	2724.4	3175.0	3702.8	4253.2	4830.9	5397.3
67.5°	1577.0	1607.6	1734.7	1960.0	2236.8	2602.1	3044.6	3548.3	4048.8	4575.0	5051.3
70°	1453.1	1483.7	1618.9	1826.5	2093.6	2452.4	2867.6	3323.0	3772.0	4143.7	4356.1
72.5°	1301.9	1337.3	1474.0	1665.5	1929.5	2265.8	2648.8	3057.5	3306.9	3582.1	3955.5
75°	1129.7	1169.9	1303.5	1482.1	1738.0	2038.9	2394.5	2626.2	2911.1	3271.5	3593.4
77.5°	943.0	992.9	1113.6	1285.8	1517.5	1794.3	2011.5	2314.1	2605.3	2903.0	3197.5
80°	749.9	806.2	914.0	1073.3	1279.3	1462.8	1718.6	1993.8	2265.8	2558.7	2845.1
82.5°	556.8	613.1	712.9	851.3	997.7	1174.7	1412.9	1683.2	1982.6	2328.5	2674.5
85°	368.5	416.8	505.3	579.3	724.1	918.9	1202.1	1490.1	1744.4	2013.1	2272.2
87.5°	193.1	222.1	275.2	381.4	539.1	685.5	877.0	1075.0	1252.0	1486.9	1686.5
90°	27.4	29.0	38.6	51.5	99.8	143.2	233.3	339.5	384.6	511.7	571.3
92.5°	41.8	40.2	33.8	25.7	20.9	20.9	19.3	17.7	16.1	12.9	9.7
95°	186.7	202.8	185.1	159.3	125.5	111.0	82.1	57.9	48.3	37.0	33.8
97.5°	342.8	381.4	383.0	357.2	341.2	313.8	272.0	263.9	252.6	220.5	193.1
100°	516.6	571.3	589.0	568.1	561.6	598.6	589.0	547.1	494.0	452.2	471.5
102.5°	693.6	743.5	778.9	838.4	766.0	817.5	889.9	936.6	970.4	939.8	872.2
105°	809.4	851.3	915.6	1000.9	1063.7	981.6	1050.8	1218.2	1372.7	1461.2	1517.5
107.5°	912.4	941.4	1021.9	1126.5	1243.9	1311.5	1205.3	1317.9	1577.0	1832.9	2019.6
110°	1033.1	1052.4	1095.9	1240.7	1369.4	1541.6	1580.3	1490.1	1617.3	1908.5	2286.7



TEST NUMBER: P236473

CATALOG NUMBER: SKB4-LD5-36-N-UNV-L840-CD4-U all blades horizontal

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	1123.2	1128.1	1115.2	1290.6	1462.8	1631.7	1868.3	1913.4	1865.1	1953.6	2186.9
115°	1184.4	1176.3	1131.3	1274.5	1499.8	1700.9	1931.1	2220.7	2298.0	2304.4	2343.0
117.5°	1218.2	1203.7	1161.9	1248.8	1495.0	1739.6	1974.5	2267.4	2569.9	2695.4	2801.6
120°	1229.4	1213.3	1200.5	1197.3	1429.0	1733.1	2008.3	2277.0	2584.4	2903.0	3083.3
122.5°	1227.8	1215.0	1232.7	1147.4	1350.1	1683.2	1997.0	2283.5	2560.3	2874.1	3186.2
125°	1219.8	1210.1	1245.5	1137.7	1295.4	1570.6	1926.2	2251.3	2529.7	2816.1	3097.7
127.5°	1200.5	1195.6	1240.7	1144.2	1221.4	1453.1	1821.6	2166.0	2465.3	2745.3	3017.3
130°	1168.3	1168.3	1211.7	1168.3	1140.9	1355.0	1638.2	2021.2	2339.8	2634.3	2912.7
132.5°	1099.1	1107.1	1147.4	1168.3	1094.3	1261.6	1472.4	1816.8	2140.3	2468.5	2738.9
135°	1015.4	1031.5	1073.3	1131.3	1047.6	1131.3	1343.7	1569.0	1923.0	2222.3	2531.3
137.5°	952.7	973.6	1015.4	1091.0	1062.1	1065.3	1258.4	1419.3	1639.8	1982.6	2249.7
140°	899.6	922.1	963.9	1046.0	1066.9	1013.8	1113.6	1314.7	1459.6	1670.4	1979.3
142.5°	862.5	881.9	920.5	996.1	1041.2	1000.9	1044.4	1189.2	1327.6	1470.8	1639.8
145°	838.4	854.5	886.7	947.8	1012.2	1025.1	986.4	1063.7	1221.4	1324.4	1448.3
147.5°	838.4	844.8	864.1	904.4	981.6	1017.0	988.1	1004.2	1068.5	1242.3	1309.9
150°	843.2	844.8	862.5	888.3	951.0	1002.5	1025.1	955.9	1002.5	1065.3	1181.2
152.5°	828.7	836.8	869.0	896.3	936.6	988.1	1002.5	1002.5	943.0	991.3	1033.1
155°	820.7	827.1	860.9	886.7	914.0	960.7	986.4	1000.9	991.3	931.7	962.3
157.5°	819.1	822.3	848.1	873.8	899.6	928.5	967.1	981.6	988.1	994.5	955.9
160°	817.5	819.1	841.6	862.5	886.7	906.0	933.3	963.9	970.4	973.6	997.7
162.5°	815.9	817.5	835.2	857.7	873.8	891.5	906.0	928.5	947.8	959.1	963.9
165°	815.9	815.9	828.7	851.3	864.1	877.0	888.3	897.9	902.8	918.9	933.3
167.5°	815.9	815.9	822.3	838.4	856.1	860.9	867.4	875.4	873.8	873.8	873.8
170°	817.5	817.5	817.5	825.5	840.0	849.7	849.7	851.3	846.4	841.6	832.0
172.5°	815.9	814.3	814.3	814.3	819.1	823.9	828.7	830.4	822.3	814.3	801.4
175°	814.3	812.7	809.4	806.2	806.2	801.4	798.2	795.0	788.5	785.3	775.6
177.5°	812.7	811.0	807.8	803.0	799.8	791.7	783.7	774.0	759.6	749.9	735.4
180°	756.3	756.3	756.3	756.3	756.3	756.3	756.3	756.3	756.3	756.3	756.3



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CATALOG NUMBER: SKB4-LD5-36-N-UNV-L840-CD4-U all blades horizontal

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	2087.2	2087.2	2087.2	2087.2	2087.2	2087.2	2087.2	2087.2
2.5°	2075.9	2069.5	2069.5	2072.7	2077.5	2077.5	2077.5	2083.9
5°	2104.9	2103.2	2106.5	2112.9	2117.7	2117.7	2116.1	2124.2
7.5°	2154.7	2156.4	2162.8	2174.1	2182.1	2183.7	2183.7	2193.4
10°	2220.7	2230.4	2248.1	2264.2	2277.0	2281.9	2285.1	2294.7
12.5°	2309.2	2325.3	2347.8	2372.0	2391.3	2401.0	2405.8	2412.2
15°	2412.2	2442.8	2476.6	2508.8	2536.1	2552.2	2560.3	2576.4
17.5°	2539.3	2581.2	2623.0	2671.3	2708.3	2730.8	2743.7	2753.4
20°	2681.0	2746.9	2809.7	2874.1	2922.3	2951.3	2965.8	2975.4
22.5°	2856.4	2943.3	3023.7	3104.2	3160.5	3207.2	3228.1	3234.5
25°	3047.9	3160.5	3271.5	3374.5	3451.8	3492.0	3514.5	3524.2
27.5°	3273.1	3419.6	3545.1	3661.0	3747.9	3813.8	3844.4	3857.3
30°	3525.8	3693.2	3850.9	3998.9	4098.7	4169.5	4208.1	4222.6
32.5°	3797.8	4011.8	4190.4	4346.5	4484.9	4560.5	4608.8	4623.3
35°	4100.3	4335.2	4557.3	4752.0	4898.5	4980.5	5007.9	5022.4
37.5°	4389.9	4681.2	4929.0	5139.8	5324.9	5458.5	5537.3	5569.5
40°	4694.1	5012.7	5295.9	5572.7	5833.4	6010.4	6102.2	6132.7
42.5°	4982.1	5349.0	5699.8	6024.9	6282.4	6411.1	6485.1	6514.1
45°	5279.8	5701.5	6095.7	6432.0	6665.4	6781.2	6856.9	6882.6
47.5°	5569.5	6033.0	6462.6	6802.2	7072.5	7251.1	7355.7	7392.7
50°	5825.4	6332.3	6782.8	7159.4	7423.3	7561.7	7645.4	7685.6
52.5°	6042.6	6572.0	7043.5	7396.0	7663.1	7832.1	7938.3	7980.1
55°	6182.6	6737.8	7210.9	7585.8	7870.7	8054.1	8171.6	8226.3
57.5°	6267.9	6826.3	7302.6	7685.6	7984.9	8178.0	8300.3	8367.9
60°	6261.5	6802.2	7275.3	7651.8	7936.7	8137.8	8268.2	8347.0
62.5°	6153.6	6652.5	7080.6	7394.4	7627.7	7711.4	7724.2	7783.8
65°	5897.8	6280.8	6483.5	6596.2	6747.4	6836.0	6871.4	6929.3
67.5°	5279.8	5482.6	5756.2	6004.0	6222.8	6341.9	6412.7	6459.4
70°	4665.1	5009.5	5310.4	5553.4	5730.4	5854.3	5889.7	5947.7
72.5°	4285.3	4581.4	4835.7	5033.6	5186.5	5279.8	5292.7	5313.6
75°	3858.9	4092.2	4338.4	4558.9	4735.9	4838.9	4908.1	4938.7
77.5°	3477.5	3735.0	3979.6	4201.7	4391.6	4504.2	4575.0	4600.8
80°	3133.1	3453.4	3755.9	4003.7	4211.3	4362.6	4415.7	4436.6
82.5°	2975.4	3244.2	3477.5	3646.5	3789.7	3865.3	3883.0	3886.3
85°	2510.4	2705.1	2882.1	3028.5	3162.1	3247.4	3279.6	3274.8
87.5°	1882.8	2042.1	2204.6	2343.0	2479.8	2576.4	2611.8	2608.5
90°	674.3	674.3	764.4	814.3	954.3	1042.8	1012.2	922.1
92.5°	6.4	6.4	4.8	3.2	3.2	1.6	1.6	1.6
95°	30.6	30.6	29.0	29.0	29.0	27.4	27.4	27.4
97.5°	156.1	140.0	117.5	103.0	83.7	72.4	70.8	67.6
100°	473.1	465.1	440.9	426.4	405.5	389.4	384.6	384.6
102.5°	785.3	711.3	692.0	708.1	725.8	732.2	732.2	737.0
105°	1548.1	1540.0	1499.8	1422.5	1330.8	1247.1	1216.6	1215.0
107.5°	2154.7	2275.4	2360.7	2401.0	2421.9	2405.8	2401.0	2420.3
110°	2571.5	2800.0	2991.5	3125.1	3213.6	3239.4	3258.7	3282.8



TEST NUMBER: P236473

CATALOG NUMBER: SKB4-LD5-36-N-UNV-L840-CD4-U all blades horizontal

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	2573.1	2994.8	3358.4	3580.5	3731.8	3797.8	3836.4	3863.7
115°	2515.2	2763.0	3150.8	3496.8	3810.6	4018.2	4129.3	4179.1
117.5°	2792.0	2867.6	3047.9	3218.4	3390.6	3533.8	3625.6	3664.2
120°	3179.8	3276.4	3294.1	3348.8	3442.1	3475.9	3496.8	3517.7
122.5°	3389.0	3474.3	3591.8	3709.2	3776.8	3831.5	3871.8	3900.7
125°	3419.6	3603.0	3754.3	3821.9	3860.5	3928.1	4042.4	4100.3
127.5°	3276.4	3538.7	3781.7	3865.3	3953.8	3973.2	3990.9	3998.9
130°	3160.5	3392.2	3570.9	3751.1	3900.7	3966.7	3978.0	3978.0
132.5°	3009.2	3204.0	3406.7	3554.8	3638.4	3699.6	3738.2	3754.3
135°	2769.5	2994.8	3179.8	3313.4	3432.5	3492.0	3517.7	3530.6
137.5°	2513.6	2721.2	2901.4	3078.4	3202.3	3266.7	3290.8	3297.3
140°	2207.8	2405.8	2608.5	2771.1	2882.1	2964.2	3004.4	3010.8
142.5°	1902.1	2106.5	2262.6	2405.8	2537.7	2640.7	2695.4	2709.9
145°	1570.6	1741.2	1934.3	2079.1	2195.0	2267.4	2314.1	2331.8
147.5°	1400.0	1495.0	1578.6	1686.5	1800.7	1906.9	1971.3	1985.8
150°	1280.9	1335.6	1400.0	1461.2	1509.4	1538.4	1560.9	1548.1
152.5°	1105.5	1258.4	1289.0	1313.1	1332.4	1355.0	1342.1	1342.1
155°	994.5	1031.5	1094.3	1150.6	1255.2	1226.2	1219.8	1216.6
157.5°	925.3	941.4	968.7	976.8	972.0	963.9	968.7	957.5
160°	976.8	939.8	889.9	888.3	864.1	851.3	844.8	838.4
162.5°	965.5	975.2	975.2	951.0	914.0	873.8	849.7	841.6
165°	943.0	946.2	949.4	939.8	930.1	909.2	897.9	896.3
167.5°	880.2	896.3	909.2	920.5	928.5	915.6	893.1	886.7
170°	827.1	828.7	832.0	844.8	864.1	869.0	856.1	819.1
172.5°	788.5	783.7	782.1	793.3	819.1	840.0	848.1	869.0
175°	759.6	745.1	740.2	751.5	778.9	809.4	843.2	851.3
177.5°	716.1	698.4	688.7	700.0	725.8	766.0	806.2	811.0
180°	756.3	756.3	756.3	756.3	756.3	756.3	756.3	756.3

(END OF REPORT)