

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: P236489

Luminaire Tested: **SKB4-LD5-18-N-UNV-L850-CD2-U inner 2 blades tilted out 20 degrees**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P236489
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24060)
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-L850-CD2-U inner 2 blades tilted out 20 degrees
Description: METALUX SKYBAR LED WAVESTREAM LUMINAIRE
4 BLADES WITH NARROW DISTRIBUTION LENS, INNER 2 BLADES TILTED OUT 20
DEGREES
Light Source: (952) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

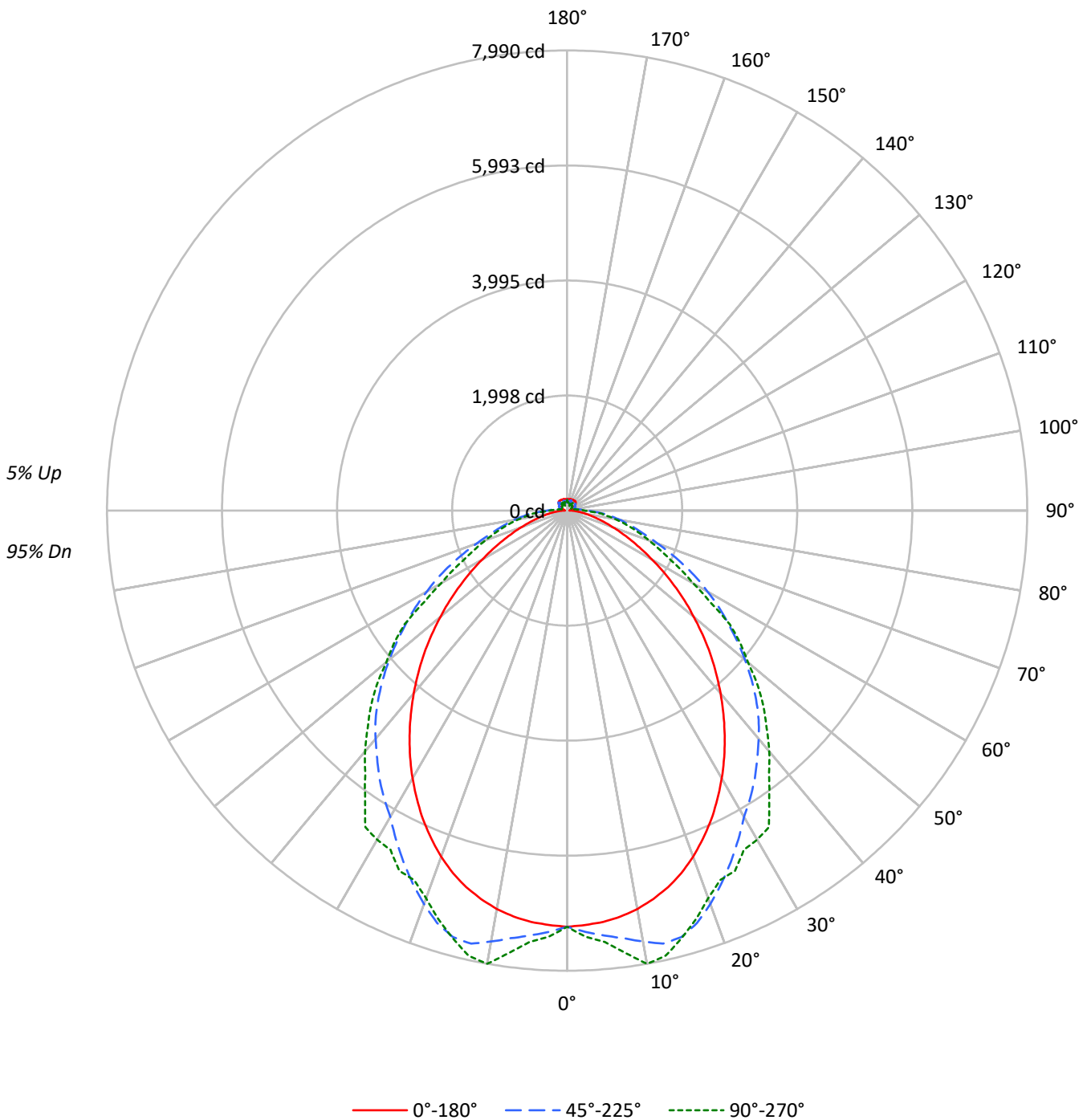
Lumens per Lamp: N/A
Luminaire Lumens: 20415.0 lumens
Efficiency: N/A
Efficacy: 142.4 lumens/watt
Spacing Criteria (0/90/45): 1.12 / 1.34 / 1.36
Luminous Opening: Rectangular w/ Sides (W: 1.88' x L: 4' x H: 0.21')
CIE Type: Direct

Input Watts (W): 143.4
Input Voltage (V): 120
Input Current (A_{in}): 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-LD5-18-N-UNV-L850-CD2-U inner 2 blades tilted out 20 degrees

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	118	118	118	118	114	114	114	114	108	108	108	103	103	103	97	97	97	95
1	108	103	98	95	104	100	96	93	95	92	89	90	87	85	86	84	82	79
2	98	90	83	78	95	88	82	76	83	78	74	79	75	71	76	72	69	67
3	90	80	72	65	87	78	70	64	74	68	63	70	65	61	67	63	59	57
4	82	71	62	56	80	69	61	55	66	59	54	63	57	52	60	55	51	49
5	76	64	55	48	74	62	54	48	59	52	47	57	51	46	55	49	45	43
6	70	57	49	42	68	56	48	42	54	47	41	52	45	41	50	44	40	38
7	65	52	44	38	63	51	43	37	49	42	37	47	41	36	46	40	36	33
8	61	48	39	34	59	47	39	33	45	38	33	43	37	32	42	36	32	30
9	57	44	36	30	55	43	35	30	42	35	30	40	34	29	39	33	29	27
10	53	41	33	28	52	40	32	27	39	32	27	37	31	27	36	30	26	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10371	10371	10371
5°	10281	10563	10728
10°	10143	10852	11420
15°	9919	11048	11088
20°	9584	10653	10512
25°	9154	10108	10387
30°	8638	9539	10274
35°	8061	9210	9944
40°	7439	8839	9359
45°	6773	8444	8810
50°	6032	7914	8080
55°	5286	7327	7446
60°	4487	6739	6092
65°	3771	6082	5320
70°	3102	5316	4854
75°	2534	4839	4534
80°	2126	4655	4285
85°	1784	4591	4265



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	711.3	3.5
10°-20°	2090.8	10.2
20°-30°	3049.3	14.9
30°-40°	3520.3	17.2
40°-50°	3408.5	16.7
50°-60°	2804.5	13.7
60°-70°	1938.7	9.5
70°-80°	1206.8	5.9
80°-90°	625.2	3.1
90°-100°	235.1	1.2
100°-110°	147.0	0.7
110°-120°	149.8	0.7
120°-130°	150.2	0.7
130°-140°	135.9	0.7
140°-150°	105.7	0.5
150°-160°	74.4	0.4
160°-170°	46.3	0.2
170°-180°	15.3	0.1
0°-30°	5851.4	28.7
0°-40°	9371.7	45.9
0°-60°	15584.7	76.3
0°-90°	19355.3	94.8
90°-120°	531.9	2.6
90°-150°	923.7	4.5
90°-180°	1060.0	5.2
0°-180°	20415.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7226	7226	7226	7226	7226	
5°	7169	7325	7406	7484	7519	680
15°	6769	7190	7666	7689	7685	1903
25°	5921	6586	6726	6776	6899	2719
35°	4768	5369	5681	6050	6117	2978
45°	3511	4000	4640	4857	4823	2704
55°	2270	2808	3411	3470	3448	2034
65°	1234	1852	2234	2084	1940	1233
75°	546	1166	1249	1238	1157	594
85°	173	644	647	632	588	175
90°	53	375	341	325	298	35
95°	48	244	227	217	198	40
105°	71	208	128	98	82	78
115°	122	244	153	100	81	121
125°	174	233	163	124	104	155
135°	208	214	162	140	117	160
145°	213	216	152	127	118	134
155°	208	163	175	125	90	97
165°	206	147	157	174	160	58
175°	201	189	156	134	138	19
180°	185	185	185	185	185	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	7225.9	7225.9	7225.9	7225.9	7225.9	7225.9	7225.9	7225.9	7225.9	7225.9	7225.9
2.5°	7202.8	7206.9	7236.7	7248.3	7264.8	7263.1	7282.2	7311.1	7300.3	7324.3	7326.8
5°	7168.9	7179.6	7224.3	7260.7	7311.1	7338.4	7369.0	7397.1	7384.7	7406.2	7416.9
7.5°	7110.2	7131.7	7197.8	7263.1	7320.2	7337.6	7373.9	7425.2	7439.3	7489.7	7524.4
10°	7024.2	7054.8	7145.7	7217.7	7273.1	7316.1	7390.5	7465.7	7512.8	7598.0	7664.2
12.5°	6907.6	6947.3	7063.9	7129.2	7216.8	7291.2	7394.6	7503.8	7592.2	7701.4	7765.9
15°	6768.7	6817.5	6942.3	7021.7	7143.2	7236.7	7376.4	7508.7	7588.9	7665.8	7694.8
17.5°	6600.0	6665.3	6793.5	6897.7	7031.6	7150.7	7307.0	7418.6	7482.3	7507.1	7494.7
20°	6394.1	6481.8	6611.6	6733.1	6886.9	7027.5	7180.5	7260.7	7271.4	7268.1	7260.7
22.5°	6165.1	6272.6	6404.0	6542.9	6717.4	6862.9	7001.0	7018.4	7016.7	7006.0	6999.4
25°	5921.1	6032.8	6170.0	6323.8	6519.8	6652.1	6741.4	6743.9	6742.2	6726.5	6710.0
27.5°	5647.5	5770.7	5921.1	6082.4	6281.7	6382.5	6443.7	6450.3	6447.9	6436.3	6428.0
30°	5368.8	5493.7	5635.0	5818.6	6002.2	6063.4	6129.5	6137.8	6131.2	6139.4	6233.7
32.5°	5074.4	5196.8	5344.8	5531.7	5686.3	5731.0	5801.2	5801.2	5806.2	5917.8	6018.7
35°	4768.5	4889.2	5035.6	5219.1	5340.7	5397.7	5461.4	5453.1	5568.1	5681.4	5773.1
37.5°	4459.3	4573.4	4714.8	4891.7	4989.3	5060.4	5103.4	5182.8	5311.7	5420.1	5540.8
40°	4144.2	4245.9	4385.7	4548.6	4640.3	4716.4	4771.0	4915.7	5037.2	5174.5	5297.7
42.5°	3829.2	3923.4	4050.8	4198.0	4297.2	4364.2	4493.2	4631.2	4779.2	4923.1	5024.8
45°	3510.8	3592.7	3715.1	3852.3	3958.2	4040.9	4207.1	4354.2	4517.1	4640.3	4736.3
47.5°	3190.0	3270.2	3378.5	3522.4	3623.3	3756.4	3913.5	4081.4	4231.9	4341.0	4439.4
50°	2869.2	2938.7	3049.5	3195.8	3302.5	3462.1	3625.0	3799.4	3929.2	4031.8	4113.6
52.5°	2572.4	2631.9	2732.8	2880.0	3007.3	3165.2	3344.6	3501.8	3624.1	3717.6	3805.2
55°	2269.7	2321.0	2432.6	2569.9	2731.9	2884.9	3069.3	3209.9	3320.7	3410.8	3491.8
57.5°	1985.3	2041.5	2150.7	2283.0	2463.2	2625.3	2797.3	2927.9	3029.6	3122.2	3171.0
60°	1704.2	1772.8	1889.4	2029.1	2211.0	2378.0	2536.0	2657.5	2754.3	2817.1	2857.6
62.5°	1453.6	1523.1	1644.6	1800.9	1982.8	2145.7	2290.4	2396.2	2470.7	2537.6	2560.8
65°	1234.5	1297.3	1421.4	1596.7	1774.4	1929.9	2062.2	2139.1	2201.1	2234.2	2226.7
67.5°	1027.8	1096.4	1223.8	1414.8	1588.4	1733.9	1835.6	1899.3	1935.7	1942.3	1921.6
70°	845.1	918.6	1054.2	1251.0	1423.0	1547.9	1625.6	1661.2	1666.9	1668.6	1662.0
72.5°	686.3	763.2	912.9	1108.0	1274.2	1366.8	1424.7	1432.1	1443.7	1438.7	1448.7
75°	545.7	629.2	793.8	986.4	1127.8	1204.7	1229.5	1231.2	1235.3	1248.6	1262.6
77.5°	434.1	511.8	690.4	875.6	998.8	1050.1	1056.7	1065.0	1074.1	1084.0	1098.1
80°	333.2	415.9	602.0	764.8	865.7	905.4	915.3	921.9	926.1	931.9	941.0
82.5°	246.4	338.2	514.3	657.4	742.5	784.7	785.5	788.0	792.1	780.6	783.9
85°	172.8	273.7	430.8	553.2	629.2	659.0	653.2	654.0	654.9	646.6	649.1
87.5°	112.5	215.8	348.9	447.3	506.9	527.5	515.1	507.7	495.3	461.4	450.6
90°	52.9	155.4	255.5	330.7	368.8	380.4	367.1	357.2	352.2	340.7	336.5
92.5°	39.7	109.1	189.4	253.0	293.5	307.6	300.2	291.9	285.3	278.7	277.0
95°	48.0	86.8	144.7	194.3	234.8	253.0	250.5	243.1	238.1	227.4	222.4
97.5°	49.6	92.6	140.6	170.3	195.1	213.3	210.8	201.8	193.5	182.7	176.1
100°	55.4	111.6	157.1	177.8	188.5	187.7	185.2	176.9	166.2	153.0	144.7
102.5°	63.7	126.5	180.3	196.8	199.3	192.7	174.5	162.1	149.7	137.3	126.5
105°	71.1	131.5	205.1	214.2	215.0	200.1	183.6	162.1	142.2	128.2	116.6
107.5°	81.9	134.8	213.3	233.2	226.6	214.2	188.5	167.9	150.5	130.6	114.1
110°	99.2	142.2	217.5	243.9	238.1	220.8	204.2	175.3	151.3	138.9	123.2



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CATALOG NUMBER: SKB4-LD5-18-N-UNV-L850-CD2-U inner 2 blades tilted out 20 degrees

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	110.0	141.4	217.5	249.7	255.5	224.1	210.0	191.0	162.1	138.1	124.9
115°	121.5	143.0	211.7	243.9	254.7	234.0	208.4	196.0	175.3	153.0	129.0
117.5°	134.0	144.7	210.0	237.3	249.7	262.1	212.5	193.5	178.6	163.7	144.7
120°	147.2	144.7	214.2	239.0	253.0	243.9	226.6	194.3	176.9	164.5	152.1
122.5°	161.2	145.5	224.1	245.6	243.9	231.5	251.4	204.2	176.9	162.9	152.1
125°	173.6	151.3	224.1	239.0	225.7	240.6	216.6	235.7	185.2	162.9	151.3
127.5°	185.2	157.9	220.8	236.5	224.9	234.8	210.0	226.6	205.1	170.3	152.1
130°	196.0	165.4	215.0	242.3	234.8	210.8	226.6	191.8	219.9	191.0	159.6
132.5°	203.4	168.7	205.9	255.5	230.7	197.6	221.6	195.1	175.3	209.2	184.4
135°	208.4	169.5	192.7	249.7	226.6	201.8	191.0	214.2	172.0	162.1	200.1
137.5°	212.5	170.3	176.9	236.5	230.7	204.2	174.5	203.4	198.4	155.4	148.8
140°	214.2	170.3	166.2	221.6	242.3	205.9	177.8	166.2	195.1	182.7	143.9
142.5°	214.2	171.2	160.4	204.2	230.7	205.9	184.4	157.9	161.2	184.4	176.1
145°	213.3	174.5	159.6	185.2	215.0	217.5	187.7	165.4	145.5	152.1	176.1
147.5°	212.5	179.4	158.8	162.9	199.3	214.2	192.7	176.9	154.6	138.1	142.2
150°	211.7	184.4	157.9	152.1	183.6	201.8	207.5	181.9	168.7	148.8	133.1
152.5°	210.0	188.5	157.9	151.3	168.7	188.5	199.3	199.3	176.9	166.2	147.2
155°	208.4	192.7	157.1	153.8	151.3	174.5	186.9	196.8	194.3	175.3	167.0
157.5°	208.4	196.8	157.9	153.8	145.5	157.9	174.5	184.4	192.7	194.3	177.8
160°	207.5	199.3	164.5	152.1	148.0	143.0	159.6	171.2	179.4	186.9	191.8
162.5°	206.7	200.9	172.8	153.0	148.8	142.2	141.4	156.3	165.4	172.0	177.8
165°	205.9	201.8	183.6	157.9	148.8	144.7	140.6	138.1	145.5	157.1	162.9
167.5°	204.2	201.8	190.2	169.5	153.8	145.5	142.2	138.9	134.0	134.8	139.7
170°	202.6	201.8	195.1	184.4	167.0	153.0	144.7	141.4	138.1	134.8	129.8
172.5°	201.8	200.9	197.6	192.7	184.4	170.3	160.4	149.7	140.6	138.1	134.8
175°	200.9	200.1	198.4	196.8	191.8	186.9	181.9	173.6	163.7	156.3	149.7
177.5°	200.1	199.3	198.4	198.4	196.8	193.5	191.8	187.7	182.7	179.4	174.5
180°	185.2	185.2	185.2	185.2	185.2	185.2	185.2	185.2	185.2	185.2	185.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	7225.9	7225.9	7225.9	7225.9	7225.9	7225.9	7225.9	7225.9
2.5°	7340.0	7364.8	7392.1	7370.6	7391.3	7407.0	7402.9	7407.8
5°	7427.7	7461.6	7490.5	7477.3	7498.8	7513.7	7508.7	7518.6
7.5°	7565.8	7617.0	7668.3	7676.6	7714.6	7746.8	7745.2	7746.8
10°	7744.4	7821.3	7890.7	7908.9	7956.0	7983.3	7981.7	7989.9
12.5°	7821.3	7878.3	7906.4	7897.3	7923.8	7927.1	7909.7	7915.5
15°	7698.1	7715.4	7702.2	7675.7	7695.6	7688.1	7674.9	7684.8
17.5°	7478.9	7483.9	7457.4	7427.7	7444.2	7444.2	7426.0	7436.8
20°	7231.7	7231.7	7203.6	7184.6	7187.1	7179.6	7154.8	7161.4
22.5°	6971.3	6953.9	6931.6	6909.2	6927.4	6930.7	6929.9	6942.3
25°	6685.2	6687.6	6748.0	6803.4	6858.0	6875.3	6869.6	6899.3
27.5°	6494.2	6560.3	6610.7	6616.5	6633.9	6627.3	6620.7	6641.3
30°	6310.6	6361.0	6408.2	6441.2	6497.5	6539.6	6571.1	6597.5
32.5°	6093.1	6164.2	6256.0	6323.0	6400.7	6451.2	6481.8	6518.1
35°	5860.8	5946.8	6036.9	6063.4	6096.4	6098.9	6088.2	6117.1
37.5°	5633.4	5707.0	5754.1	5766.5	5774.0	5759.9	5738.4	5759.1
40°	5379.6	5444.0	5491.2	5482.1	5477.9	5454.0	5437.4	5461.4
42.5°	5115.0	5158.0	5176.1	5148.9	5130.7	5116.6	5112.5	5128.2
45°	4818.1	4847.1	4866.1	4847.1	4835.5	4822.2	4812.3	4823.1
47.5°	4495.6	4527.9	4541.9	4526.2	4515.5	4495.6	4475.8	4487.4
50°	4180.6	4206.2	4210.4	4195.5	4153.3	4114.5	4083.0	4097.9
52.5°	3859.8	3858.1	3843.2	3818.4	3792.8	3780.4	3778.7	3790.3
55°	3524.9	3504.2	3483.6	3455.4	3436.4	3427.3	3434.8	3448.0
57.5°	3185.1	3164.4	3142.1	3084.2	3026.3	2971.7	2936.2	2927.9
60°	2872.5	2822.1	2764.2	2693.1	2633.5	2577.3	2530.2	2531.0
62.5°	2519.4	2459.9	2411.1	2354.9	2297.0	2251.5	2226.7	2223.4
65°	2188.7	2142.4	2108.5	2058.9	2008.4	1969.6	1946.4	1939.8
67.5°	1898.5	1871.2	1853.8	1820.7	1772.8	1738.1	1718.2	1713.3
70°	1660.3	1638.0	1624.8	1595.8	1556.2	1528.9	1513.2	1509.8
72.5°	1452.0	1438.7	1433.8	1405.7	1376.7	1347.0	1331.2	1327.1
75°	1273.4	1258.5	1247.7	1227.9	1198.9	1176.6	1165.0	1156.8
77.5°	1101.4	1088.1	1080.7	1064.2	1041.8	1021.2	1007.9	999.7
80°	941.8	927.7	921.1	905.4	883.1	861.6	853.3	845.1
82.5°	781.4	769.0	764.0	752.4	735.9	720.2	709.4	702.0
85°	649.1	638.3	635.9	628.4	614.4	602.8	593.7	587.9
87.5°	442.4	438.2	437.4	430.8	420.9	410.9	402.7	397.7
90°	334.1	326.6	326.6	323.3	315.9	308.4	302.6	298.5
92.5°	276.2	273.7	273.7	268.7	262.1	255.5	248.9	244.8
95°	219.1	216.6	218.3	215.8	210.8	206.7	201.8	198.4
97.5°	172.0	169.5	172.0	170.3	166.2	162.1	157.9	153.8
100°	138.9	135.6	135.6	133.1	129.8	124.9	121.5	118.2
102.5°	119.1	114.1	111.6	109.1	105.0	100.9	97.6	94.3
105°	107.5	102.5	99.2	95.9	91.8	88.5	85.2	81.9
107.5°	102.5	95.9	91.8	88.5	84.3	81.0	76.9	74.4
110°	106.7	96.7	90.1	86.0	81.0	77.7	73.6	71.1



TEST NUMBER: P236489

CATALOG NUMBER: SKB4-LD5-18-N-UNV-L850-CD2-U inner 2 blades tilted out 20 degrees

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	114.9	105.8	95.9	88.5	84.3	80.2	76.1	73.6
115°	111.6	104.2	102.5	96.7	93.4	88.5	83.5	81.0
117.5°	124.0	107.5	97.6	91.8	89.3	87.6	85.2	82.7
120°	136.4	122.4	110.0	101.7	94.3	88.5	83.5	80.2
122.5°	141.4	129.8	120.7	114.1	109.1	103.4	97.6	94.3
125°	141.4	132.3	126.5	121.5	116.6	112.5	107.5	104.2
127.5°	143.0	135.6	129.8	124.0	119.9	115.8	111.6	109.1
130°	144.7	138.1	133.1	129.0	124.0	119.1	114.9	111.6
132.5°	153.8	142.2	135.6	131.5	128.2	123.2	119.1	115.8
135°	190.2	155.4	143.9	136.4	130.6	125.7	120.7	117.4
137.5°	189.4	196.0	176.1	149.7	139.7	133.1	127.3	124.0
140°	137.3	168.7	187.7	190.2	184.4	168.7	157.9	150.5
142.5°	137.3	132.3	131.5	157.1	177.8	180.3	178.6	176.9
145°	174.5	152.1	129.0	125.7	123.2	121.5	121.5	118.2
147.5°	167.0	172.0	171.2	153.0	137.3	122.4	119.1	118.2
150°	131.5	146.4	166.2	172.0	172.0	169.5	167.0	167.0
152.5°	129.8	124.9	128.2	135.6	147.2	151.3	155.4	148.8
155°	151.3	138.1	128.2	121.5	116.6	113.3	100.1	90.1
157.5°	168.7	162.1	153.0	144.7	135.6	119.9	106.7	103.4
160°	187.7	176.9	169.5	164.5	156.3	142.2	136.4	134.0
162.5°	182.7	186.9	185.2	180.3	162.9	154.6	149.7	146.4
165°	167.9	172.0	174.5	174.5	172.8	167.0	162.9	159.6
167.5°	150.5	157.1	162.1	163.7	168.7	167.0	160.4	157.1
170°	128.2	130.6	135.6	142.2	147.2	154.6	153.0	149.7
172.5°	131.5	129.8	131.5	133.1	134.8	138.9	138.9	137.3
175°	143.9	138.9	135.6	133.1	134.0	138.1	141.4	138.1
177.5°	169.5	165.4	159.6	156.3	157.1	158.8	162.9	151.3
180°	185.2	185.2	185.2	185.2	185.2	185.2	185.2	185.2

(END OF REPORT)