

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: FAIL-SAFE

Report Number: P735611

Luminaire Tested: **4APN6-29-B2750-W2D-CP250-4000K**

Issue Date: 1/5/2024



**Test Information**

Test Method: LM-79-08  
Report Number: P735611  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P709119)  
Test Lab: INNOVATION CENTER(G2)  
Issue Date: 1/5/2024  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 4APN6-29-B2750-W2D-CP250-4000K  
Description: 4FT 2900 AMBIENT LUMEN OUTPUT APN WITH BIO UP LEDS AT 4000K CCT, AND CP250 LENS

Light Source: -  
Ballast/Driver: -

**Summary**

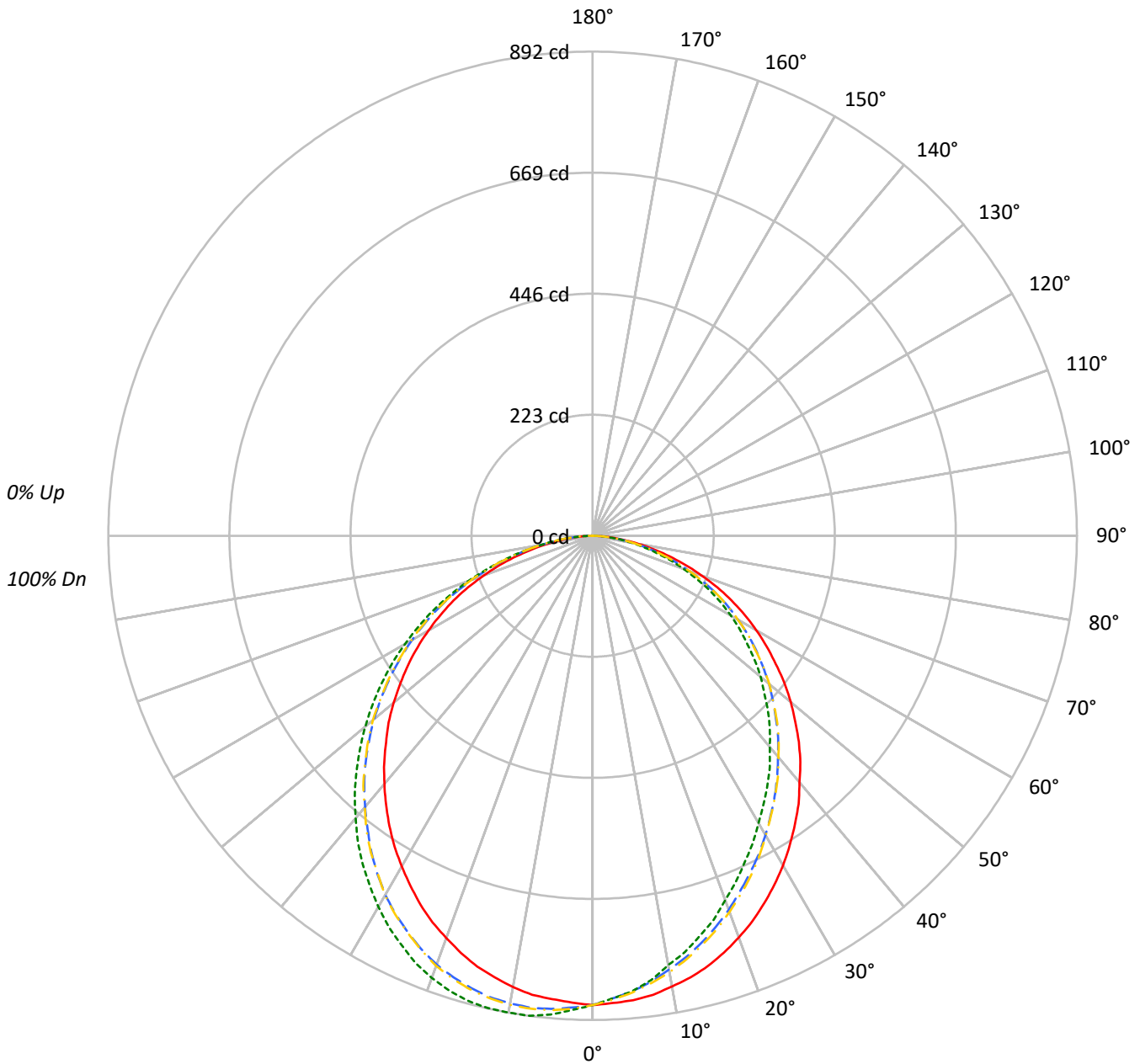
Lumens per Lamp: N/A  
Luminaire Lumens: 2319.0 lumens  
Efficiency: N/A  
Efficacy: 81.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.33  
Luminous Opening: Rectangular (W 0.29' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 28.5  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	109	104	100	96	106	102	98	95	98	94	92	94	91	89	90	88	86	84				84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	76	72	70				70
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	59				59
4	83	71	62	55	81	70	61	55	67	60	54	65	59	54	63	57	53	51				51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44				44
6	70	57	48	42	68	56	48	42	54	47	41	53	46	41	51	45	41	38				38
7	65	52	43	37	64	51	43	37	49	42	37	48	41	36	47	41	36	34				34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	30				30
9	57	43	35	30	55	43	35	30	42	35	30	41	34	29	40	34	29	27				27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25				25

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	7978	7978	7978	7978
5°	7954	7800	7935	8199
10°	7899	7523	7909	8357
15°	7838	7288	7849	8473
20°	7731	7011	7741	8509
25°	7608	6751	7637	8474
30°	7471	6514	7492	8409
35°	7314	6323	7348	8318
40°	7138	6114	7187	8175
45°	7007	5960	7020	8027
50°	6838	5799	6865	7847
55°	6624	5586	6671	7631
60°	6425	5416	6444	7364
65°	6169	5189	6169	7047
70°	5751	4804	5727	6569
75°	5229	4360	5158	5896
80°	4521	3746	4367	5042
85°	3525	2795	3313	4139



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	81.7	3.5
10°-20°	231.9	10.0
20°-30°	344.7	14.9
30°-40°	406.3	17.5
40°-50°	413.7	17.8
50°-60°	368.5	15.9
60°-70°	277.7	12.0
70°-80°	154.4	6.7
80°-90°	40.1	1.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	658.3	28.4
0°-40°	1064.6	45.9
0°-60°	1846.8	79.6
0°-90°	2319.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2319.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	865	865	865	865	865	
5°	859	842	857	885	859	81
15°	821	763	822	887	821	231
25°	747	663	750	832	747	344
35°	649	561	652	738	649	406
45°	537	457	538	615	537	414
55°	412	347	415	474	412	369
65°	283	238	283	323	283	279
75°	147	122	145	165	147	156
85°	33	26	31	39	33	40
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°
0°	864.7	864.7	864.7	864.7	864.7	864.7	864.7	864.7	864.7	864.7	864.7
2.5°	861.7	861.7	862.7	858.8	853.9	852.0	851.0	850.0	852.0	852.9	852.0
5°	858.8	856.8	854.9	850.0	844.2	840.2	838.2	837.3	839.3	842.2	839.3
7.5°	852.9	849.0	845.1	838.2	831.5	825.5	822.6	820.6	822.6	825.5	823.5
10°	843.1	838.2	832.4	824.6	814.8	807.9	805.0	802.1	803.0	803.0	803.0
12.5°	833.3	826.6	819.7	809.9	799.1	791.3	786.4	782.6	784.4	785.5	785.5
15°	820.6	811.9	802.1	791.3	780.6	771.7	765.9	761.9	763.0	763.0	763.9
17.5°	805.0	795.2	785.5	772.8	760.0	750.2	743.4	738.5	740.4	741.4	742.4
20°	787.4	776.6	765.9	752.2	738.5	727.7	720.8	715.0	714.1	714.1	715.0
22.5°	768.8	757.1	744.4	729.7	715.0	703.2	696.4	690.6	689.6	689.6	690.6
25°	747.3	734.6	721.9	707.2	691.5	679.8	671.0	665.2	664.1	663.2	665.2
27.5°	724.8	712.1	699.4	684.7	668.1	656.3	647.5	641.6	639.7	638.7	640.7
30°	701.3	686.6	673.0	657.3	642.6	630.9	622.1	615.2	613.3	611.4	613.3
32.5°	675.9	661.2	646.5	630.9	616.3	604.5	595.6	588.9	586.9	585.9	587.8
35°	649.4	634.8	621.2	605.4	590.8	579.1	570.3	564.4	562.5	561.4	562.5
37.5°	623.0	608.5	594.7	579.1	564.4	552.7	543.8	538.0	537.0	536.0	537.0
40°	592.7	580.0	566.3	551.6	537.0	525.3	518.4	511.6	509.6	507.6	510.6
42.5°	566.3	553.6	540.0	526.2	511.6	499.8	492.0	486.2	484.2	483.2	484.2
45°	537.0	523.3	509.6	496.9	483.2	472.4	464.6	458.7	457.8	456.8	457.8
47.5°	505.7	494.0	482.2	469.5	455.8	445.1	438.2	432.4	430.4	428.4	430.4
50°	476.4	464.6	452.9	441.1	428.4	418.6	411.8	405.9	404.9	404.0	404.9
52.5°	445.1	433.3	422.6	410.8	400.0	390.2	383.5	378.6	377.5	376.6	377.5
55°	411.8	402.0	392.2	382.4	371.7	362.9	357.0	351.1	349.2	347.3	349.2
57.5°	380.4	371.7	361.9	352.1	342.4	334.6	328.6	323.7	322.8	321.8	322.8
60°	348.2	340.4	331.5	322.8	313.0	305.2	300.3	296.4	294.4	293.5	294.4
62.5°	315.9	308.1	301.3	292.4	283.7	277.7	272.8	269.0	267.0	266.1	267.0
65°	282.6	275.9	269.0	261.2	254.3	248.4	243.5	239.7	238.6	237.7	237.7
67.5°	248.4	242.6	236.7	229.9	222.1	216.1	211.2	208.3	207.4	206.4	207.4
70°	213.2	208.3	202.5	196.6	190.7	185.9	182.9	180.0	179.0	178.1	178.1
72.5°	180.0	176.1	171.2	166.3	161.4	156.5	153.6	151.6	150.7	149.6	149.6
75°	146.7	142.8	139.9	136.0	131.1	128.1	125.2	123.2	122.3	122.3	122.3
77.5°	115.4	112.5	109.6	105.6	102.7	99.8	97.8	96.9	95.8	95.8	95.8
80°	85.1	83.1	81.2	79.2	76.3	73.4	72.4	71.4	70.5	70.5	70.5
82.5°	57.8	56.7	54.7	52.9	50.9	49.8	48.9	48.0	48.0	48.0	48.0
85°	33.3	32.3	31.3	30.3	29.3	29.3	28.4	27.4	26.4	26.4	26.4
87.5°	13.7	13.7	13.7	12.7	11.8	11.8	11.8	11.8	11.8	11.8	11.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	864.7	864.7	864.7	864.7	864.7	864.7	864.7	864.7	864.7	864.7	864.7
2.5°	850.0	852.0	853.9	856.8	859.8	862.7	861.7	860.8	864.7	869.5	870.6
5°	837.3	839.3	842.2	847.1	852.0	855.9	856.8	856.8	864.7	871.5	873.5
7.5°	821.7	824.6	828.4	833.3	840.2	846.1	849.0	852.9	860.8	869.5	873.5
10°	802.1	807.0	812.8	819.7	826.6	833.3	839.3	844.2	853.9	863.7	869.5
12.5°	784.4	789.3	795.2	803.0	811.9	820.6	826.6	833.3	845.1	856.8	863.7
15°	764.9	769.7	776.6	784.4	794.2	804.0	812.8	821.7	833.3	846.1	853.9
17.5°	743.4	748.3	755.1	764.9	775.7	786.4	796.2	806.0	819.7	833.3	842.2
20°	717.0	723.9	732.6	742.4	755.1	767.9	777.7	788.4	803.0	817.7	827.5
22.5°	691.5	698.4	708.1	719.9	733.6	747.3	759.0	770.8	786.4	801.1	811.9
25°	667.0	675.0	684.7	696.4	709.2	722.8	736.6	750.2	765.9	781.5	792.3
27.5°	642.6	649.4	659.2	671.0	685.7	699.4	713.0	726.8	743.4	760.0	771.7
30°	615.2	623.0	631.9	643.6	659.2	675.0	688.6	703.2	719.9	736.6	748.3
32.5°	589.8	596.7	605.4	617.2	632.8	648.5	663.2	678.8	694.5	711.1	722.8
35°	564.4	571.2	580.0	591.8	607.4	623.0	637.7	652.4	668.1	683.7	695.4
37.5°	538.9	545.8	554.7	566.3	581.0	596.7	610.3	625.0	640.7	656.3	667.0
40°	512.5	519.4	526.2	538.0	552.7	568.3	582.0	596.7	612.3	627.9	638.7
42.5°	486.2	492.9	501.8	513.6	527.2	540.9	554.7	568.3	583.0	597.6	608.5
45°	459.7	465.6	474.4	485.1	498.9	511.6	525.3	538.0	552.7	566.3	577.1
47.5°	432.4	438.2	445.1	455.8	469.5	483.2	496.9	509.6	522.3	536.0	545.8
50°	405.9	411.8	419.6	429.4	442.2	454.9	466.6	478.3	491.1	503.8	512.5
52.5°	378.6	384.4	391.3	401.1	411.8	423.5	434.2	446.0	457.8	469.5	478.3
55°	351.1	355.1	360.9	369.7	381.5	393.3	404.0	414.7	425.5	435.3	444.0
57.5°	323.7	328.6	335.5	343.3	353.1	362.9	372.6	382.4	392.2	402.0	409.8
60°	296.4	300.3	305.2	312.0	321.8	330.6	340.4	349.2	358.0	366.8	373.7
62.5°	268.0	271.9	276.8	283.7	291.5	299.3	308.1	315.9	323.7	331.5	338.4
65°	238.6	242.6	247.5	253.3	260.2	267.0	274.8	282.6	288.6	294.4	301.3
67.5°	208.3	212.3	217.2	222.1	227.9	234.8	241.6	248.4	254.3	260.2	265.0
70°	179.0	181.9	186.8	190.7	195.6	200.5	206.4	212.3	216.1	221.0	227.0
72.5°	150.7	153.6	157.4	161.4	164.3	168.3	174.1	179.0	183.9	189.8	192.7
75°	123.2	125.2	128.1	131.1	134.0	136.9	140.9	144.7	148.7	151.6	155.6
77.5°	95.8	97.8	100.7	102.7	104.7	106.7	109.6	112.5	115.4	117.4	121.3
80°	70.5	72.4	74.3	76.3	78.3	80.2	81.2	82.2	86.1	89.0	90.9
82.5°	48.0	48.9	49.8	51.8	52.9	53.8	54.7	54.7	56.7	58.7	61.6
85°	27.4	28.4	29.3	29.3	29.3	29.3	30.3	31.3	32.3	34.2	36.2
87.5°	10.7	10.7	11.8	11.8	11.8	11.8	11.8	11.8	12.7	14.7	15.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	864.7	864.7	864.7	864.7	864.7	864.7	864.7	864.7	864.7	864.7	864.7
2.5°	869.5	870.6	872.5	873.5	874.4	874.4	875.5	876.4	874.4	872.5	871.5
5°	874.4	875.5	878.4	881.3	883.3	885.3	884.2	883.3	881.3	878.4	876.4
7.5°	875.5	878.4	881.3	885.3	888.2	892.0	890.2	888.2	884.2	880.4	877.3
10°	872.5	876.4	881.3	886.2	889.1	892.0	890.2	888.2	884.2	879.3	875.5
12.5°	868.6	873.5	879.3	884.2	887.1	891.1	888.2	885.3	880.4	875.5	870.6
15°	859.8	865.7	872.5	878.4	883.3	887.1	884.2	882.2	876.4	869.5	862.7
17.5°	849.0	856.8	863.7	870.6	874.4	878.4	876.4	874.4	867.6	859.8	852.0
20°	836.4	844.2	851.0	857.8	862.7	866.6	863.7	860.8	853.9	847.1	839.3
22.5°	820.6	828.4	836.4	843.1	848.0	852.0	848.0	843.1	836.4	829.5	821.7
25°	801.1	809.9	818.7	825.5	828.4	832.4	828.4	824.6	817.7	810.9	802.1
27.5°	781.5	790.4	799.1	806.0	808.9	812.8	808.9	805.0	798.2	791.3	782.6
30°	759.0	767.9	776.6	783.5	786.4	789.3	785.5	781.5	775.7	768.8	760.0
32.5°	733.6	742.4	749.2	756.1	760.0	763.9	760.0	757.1	750.2	741.4	732.6
35°	706.2	715.0	723.9	730.6	734.6	738.5	733.6	728.8	722.8	715.9	708.1
37.5°	675.9	685.7	695.4	703.2	706.2	710.1	706.2	701.3	695.4	688.6	679.8
40°	647.5	656.3	665.2	673.0	675.9	678.8	675.0	671.0	664.1	657.3	648.5
42.5°	618.2	627.0	634.8	641.6	644.6	648.5	644.6	639.7	634.8	629.0	621.2
45°	586.9	595.6	602.5	609.4	612.3	615.2	611.4	606.5	601.6	596.7	588.9
47.5°	554.7	562.5	569.3	576.1	578.1	581.0	577.1	574.2	569.3	564.4	557.6
50°	521.4	529.2	536.0	541.8	543.8	546.7	542.9	538.9	535.1	531.1	525.3
52.5°	487.1	494.0	500.9	506.7	508.7	510.6	506.7	502.7	498.9	494.9	489.1
55°	451.9	458.7	465.6	470.5	472.4	474.4	470.5	467.6	463.6	460.7	454.9
57.5°	416.7	423.5	429.4	434.2	436.2	438.2	434.2	430.4	427.5	424.5	419.6
60°	380.4	387.3	392.2	396.2	398.1	399.1	395.1	392.2	390.2	388.4	383.5
62.5°	345.3	350.2	355.1	358.0	360.0	360.9	358.0	356.0	354.1	352.1	348.2
65°	308.1	314.0	317.9	320.8	321.8	322.8	319.9	317.9	315.9	314.0	311.0
67.5°	271.0	275.9	278.8	281.7	282.6	282.6	282.6	281.7	279.7	276.8	273.9
70°	233.7	237.7	240.6	242.6	243.5	243.5	241.6	239.7	239.7	238.6	236.7
72.5°	195.6	198.5	200.5	202.5	202.5	202.5	202.5	203.4	202.5	200.5	197.6
75°	159.4	162.3	164.3	165.4	165.4	165.4	165.4	166.3	165.4	164.3	162.3
77.5°	125.2	127.2	128.1	129.1	129.1	129.1	130.1	131.1	130.1	129.1	128.1
80°	92.9	93.9	94.9	95.8	94.9	94.9	95.8	97.8	96.9	95.8	94.9
82.5°	63.6	64.5	65.6	65.6	66.5	67.5	67.5	67.5	67.5	66.5	65.6
85°	38.2	39.1	39.1	39.1	39.1	39.1	40.1	41.1	41.1	40.1	40.1
87.5°	17.6	18.6	17.6	16.7	15.6	15.6	17.6	19.6	19.6	18.6	18.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0





TEST NUMBER: P735611

CATALOG NUMBER: 4APN6-29-B2750-W2D-CP250-4000K

**CANDELA DISTRIBUTION (continued):**

	330°	340°	350°	360°
0°	864.7	864.7	864.7	864.7
2.5°	872.5	871.5	866.6	861.7
5°	875.5	872.5	865.7	858.8
7.5°	875.5	871.5	861.7	852.9
10°	870.6	864.7	853.9	843.1
12.5°	864.7	857.8	845.1	833.3
15°	855.9	848.0	834.4	820.6
17.5°	843.1	833.3	819.7	805.0
20°	830.4	819.7	803.0	787.4
22.5°	812.8	803.0	785.5	768.8
25°	793.3	782.6	764.9	747.3
27.5°	772.8	760.0	742.4	724.8
30°	749.2	736.6	719.0	701.3
32.5°	723.9	712.1	694.5	675.9
35°	698.4	685.7	668.1	649.4
37.5°	670.1	658.3	640.7	623.0
40°	639.7	627.9	610.3	592.7
42.5°	611.4	600.5	583.0	566.3
45°	580.0	569.3	552.7	537.0
47.5°	547.8	537.0	521.4	505.7
50°	516.5	505.7	491.1	476.4
52.5°	481.3	472.4	458.7	445.1
55°	447.1	438.2	424.5	411.8
57.5°	412.8	404.9	392.2	380.4
60°	376.6	368.8	359.0	348.2
62.5°	342.4	335.5	325.7	315.9
65°	306.2	300.3	291.5	282.6
67.5°	269.0	264.1	256.3	248.4
70°	231.9	225.9	220.1	213.2
72.5°	194.7	191.7	185.9	180.0
75°	159.4	156.5	151.6	146.7
77.5°	126.2	123.2	119.4	115.4
80°	92.9	90.9	88.0	85.1
82.5°	64.5	62.7	60.7	57.8
85°	39.1	37.1	35.2	33.3
87.5°	17.6	16.7	14.7	13.7
90°	0.0	0.0	0.0	0.0



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— 0°-180°    - - 45°-225°    - - - 90°-270°    - · - 135°-315°















(END OF REPORT)