

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: 766695

Luminaire Tested: **DDEW-21xxxx**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: 766695
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: DDEW-21xxxx
Description: FAIL-SAFE WHITE 9 x 9
Light Source: #045 - GE F212D/827/4P 1350 LUMENS
TOTAL INPUT WATTS = 23.25 AT 120 VOLTS
Ballast/Driver: ONE A.L.I. #B04

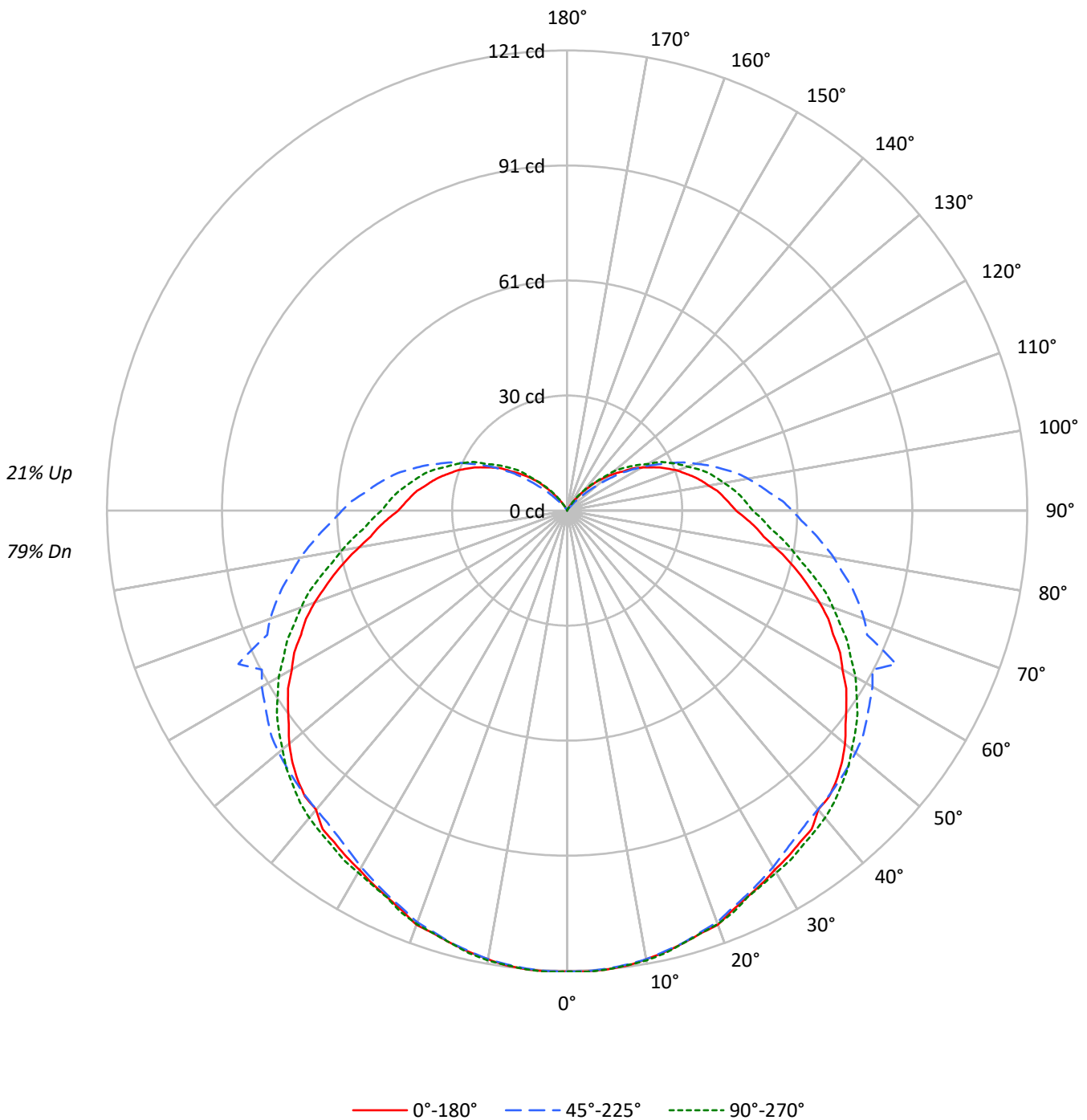
Summary

Lumens per Lamp: 1350 (1 lamp)
Luminaire Lumens: 696.1 lumens
Efficiency: 51.6%
Efficacy: 33.1 lumens/watt
Spacing Criteria (0/90/45): 1.36 / 1.37 / 1.56
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: Semi-Direct

Input Watts (W): 21
Input Voltage (V): NR
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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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	59	59	59	59	56	56	56	56	51	51	51	47	47	47	43	43	43	41
1	51	48	45	42	49	46	43	41	42	39	37	38	36	34	34	33	31	29
2	46	41	36	33	43	39	35	32	35	32	29	32	29	27	29	27	25	23
3	41	35	30	26	39	33	29	25	30	27	24	27	24	22	25	22	20	18
4	38	31	26	22	35	29	25	21	26	23	20	24	21	18	22	19	17	15
5	34	27	22	18	32	26	21	18	23	20	16	21	18	15	19	16	14	13
6	32	24	19	16	30	23	19	15	21	17	14	19	16	13	17	14	12	11
7	29	22	17	14	28	21	16	13	19	15	12	17	14	12	16	13	11	9
8	27	20	15	12	26	19	15	12	17	14	11	16	13	10	14	12	9	8
9	25	18	14	11	24	17	13	10	16	12	10	15	11	9	13	10	8	7
10	24	17	12	10	22	16	12	9	15	11	9	13	10	8	12	10	8	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	Luminaire represents a point source (luminous area is zero).		
5°	No luminance values can be calculated.		
10°			
15°			
20°			
25°			
30°			
35°			
40°			
45°			
50°			
55°			
60°			
65°			
70°			
75°			
80°			
85°			



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ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	11.5	1.7	0.9	0°	121	121	121	121	121	
10°-20°	33.3	4.8	2.5	5°	121	121	121	121	121	12
20°-30°	51.7	7.4	3.8	15°	118	117	118	118	118	33
30°-40°	66.6	9.6	4.9	25°	112	112	112	112	112	52
40°-50°	77.9	11.2	5.8	35°	107	106	105	106	108	67
50°-60°	83.6	12.0	6.2	45°	100	100	101	101	102	77
60°-70°	83.7	12.0	6.2	55°	90	92	96	94	93	80
70°-80°	76.2	10.9	5.6	65°	77	83	95	85	81	77
80°-90°	64.9	9.3	4.8	75°	63	72	77	74	67	67
90°-100°	53.5	7.7	4.0	85°	50	59	65	62	54	42
100°-110°	41.2	5.9	3.1	90°	44	53	59	56	49	24
110°-120°	27.9	4.0	2.1	95°	41	48	54	50	46	33
120°-130°	15.8	2.3	1.2	105°	34	38	42	40	38	36
130°-140°	6.6	0.9	0.5	115°	27	27	29	28	30	27
140°-150°	1.5	0.2	0.1	125°	18	16	17	18	20	16
150°-160°	0.2	0.0	0.0	135°	10	8	6	9	11	8
160°-170°	0.0	0.0	0.0	145°	3	2	1	2	4	2
170°-180°	0.0	0.0	0.0	155°	0	0	0	1	1	0
0°-30°	96.5	13.9	7.1	165°	0	0	0	0	0	0
0°-40°	163.1	23.4	12.1	175°	0	0	0	0	0	0
0°-60°	324.5	46.6	24.0	180°	0	0	0	0	0	0
0°-90°	549.3	78.9	40.7							
90°-120°	122.7	17.6	9.1							
90°-150°	146.5	21.1	10.9							
90°-180°	147.0	21.1	10.9							
0°-180°	696.1	100.0	51.6							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	121.2	121.2	121.2	121.2	121.2
2.5°	121.3	121.1	121.2	121.1	121.4
5°	121.1	120.8	120.9	120.9	121.1
7.5°	120.7	120.3	120.4	120.3	120.6
10°	119.8	119.5	119.8	119.5	120.1
12.5°	118.9	118.7	118.7	118.6	119.2
15°	117.8	117.4	117.7	117.5	117.8
17.5°	116.6	116.2	116.3	116.4	116.6
20°	115.9	115.2	115.2	115.4	115.7
22.5°	113.7	113.2	113.2	113.5	114.3
25°	112.1	111.6	111.6	111.9	112.2
27.5°	110.7	109.9	109.9	110.5	111.0
30°	109.1	108.5	108.3	109.0	109.9
32.5°	108.0	106.9	106.4	107.4	109.1
35°	106.6	105.8	104.8	106.5	107.7
37.5°	105.6	104.4	103.5	105.4	106.6
40°	102.7	103.2	102.6	104.2	105.5
42.5°	102.0	101.4	101.8	102.7	104.0
45°	100.2	99.7	100.9	101.2	102.0
47.5°	98.0	97.8	100.0	99.5	100.2
50°	95.4	96.0	99.0	97.9	97.7
52.5°	92.3	94.0	97.9	95.9	95.5
55°	89.6	91.9	96.1	93.9	93.2
57.5°	87.0	89.8	94.3	91.9	90.2
60°	83.6	87.7	92.7	90.0	87.6
62.5°	80.9	85.5	90.5	88.2	84.1
65°	77.2	83.3	95.4	85.3	81.3
67.5°	74.3	80.6	85.4	82.8	77.6
70°	70.6	78.0	83.1	80.3	74.4
72.5°	66.7	74.7	80.3	77.8	71.2
75°	63.0	72.0	77.4	74.4	67.2
77.5°	59.3	68.4	74.0	71.0	63.3
80°	55.5	65.3	71.2	68.0	60.1
82.5°	52.1	62.2	68.0	65.3	57.0
85°	49.7	59.4	64.9	61.8	53.6
87.5°	47.0	56.2	61.7	58.5	51.3
90°	44.4	53.4	59.2	56.1	48.8
92.5°	42.8	50.8	56.7	53.5	47.2
95°	41.3	48.4	53.5	50.5	45.7
97.5°	39.8	45.9	50.9	48.0	43.8
100°	37.8	42.9	48.3	45.6	41.9
102.5°	36.2	40.1	45.6	42.9	40.1
105°	34.4	37.6	42.3	39.5	38.4
107.5°	32.5	34.5	39.3	36.9	36.2
110°	30.8	31.6	36.0	34.4	33.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	28.7	29.1	33.1	31.4	31.8
115°	26.8	26.6	29.4	27.8	29.7
117.5°	24.6	23.1	26.1	25.4	27.7
120°	22.6	20.7	23.1	22.9	24.5
122.5°	20.8	18.2	19.8	20.4	22.4
125°	17.9	16.1	16.9	17.7	20.2
127.5°	16.1	14.2	13.4	15.1	18.2
130°	14.2	11.9	10.3	13.1	16.1
132.5°	12.2	10.0	7.9	11.1	12.9
135°	10.3	7.8	5.5	9.2	10.8
137.5°	8.1	6.2	3.7	7.0	8.8
140°	6.3	4.7	2.1	4.9	7.0
142.5°	4.5	3.1	1.2	3.4	5.3
145°	3.2	1.9	1.0	2.2	3.8
147.5°	2.1	1.2	0.8	1.3	1.9
150°	1.2	0.7	0.7	0.7	1.0
152.5°	0.4	0.4	0.6	0.6	0.6
155°	0.4	0.4	0.4	0.6	0.6
157.5°	0.4	0.4	0.3	0.3	0.6
160°	0.3	0.3	0.3	0.3	0.3
162.5°	0.3	0.3	0.1	0.3	0.3
165°	0.1	0.2	0.0	0.1	0.1
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)