

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: 766694

Luminaire Tested: **DDEC-21xxxx**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: 766694
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: DDEC-21xxxx
Description: FAIL-SAFE CLEAR 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

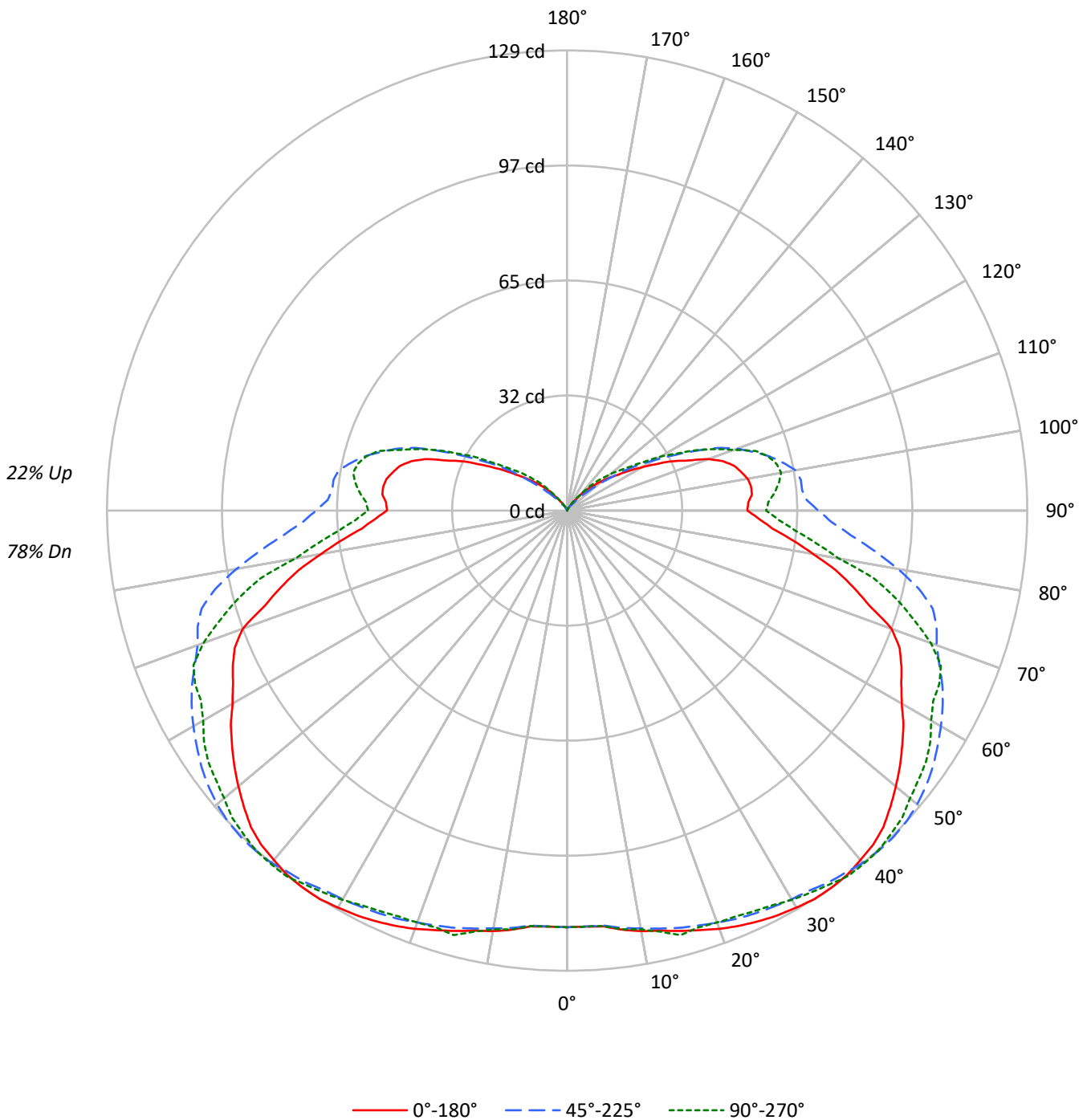
Summary

Lumens per Lamp: 1350 (1 lamp)
Luminaire Lumens: 877.2 lumens
Efficiency: 65.0%
Efficacy: 41.8 lumens/watt
Spacing Criteria (0/90/45): 1.66 / 1.67 / 1.82
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

TEST NUMBER: 766694
CATALOG NUMBER: DDEC-21xxxx

Luminous Intensity Polar Plot





TEST NUMBER: 766694
 CATALOG NUMBER: DDEC-21xxxx

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	74	74	74	74	71	71	71	71	64	64	64	59	59	59	53	53	53	51
1	65	60	57	53	61	57	54	51	52	49	47	47	45	43	42	41	39	37
2	57	51	45	41	54	48	43	39	44	40	36	39	36	33	35	33	30	28
3	52	44	37	32	49	41	36	31	37	33	29	34	30	26	30	27	24	22
4	47	38	31	26	44	36	30	25	33	28	24	29	25	22	26	23	20	18
5	43	33	27	22	40	32	26	21	29	24	20	26	22	18	23	20	17	15
6	39	30	23	19	37	28	22	18	26	21	17	23	19	16	21	17	14	13
7	36	27	21	16	34	25	20	16	23	18	15	21	17	14	19	15	12	11
8	33	24	18	14	32	23	18	14	21	16	13	19	15	12	17	14	11	9
9	31	22	16	13	29	21	16	12	19	15	11	17	13	11	16	12	10	8
10	29	20	15	11	27	19	14	11	18	13	10	16	12	9	15	11	9	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°			



TEST NUMBER: 766694
 CATALOG NUMBER: DDEC-21xxxx

ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp		0°	22.5°	45°	67.5°	90°	Flux
0°-10°	11.2	1.3	0.8	0°	117	117	117	117	117	
10°-20°	34.5	3.9	2.6	5°	117	117	117	117	117	11
20°-30°	57.9	6.6	4.3	15°	122	122	121	121	123	35
30°-40°	80.3	9.2	5.9	25°	127	126	125	124	124	59
40°-50°	98.7	11.2	7.3	35°	129	128	127	128	128	81
50°-60°	109.0	12.4	8.1	45°	125	126	129	128	128	97
60°-70°	112.0	12.8	8.3	55°	115	119	125	124	123	103
70°-80°	104.0	11.9	7.7	65°	103	110	116	117	115	102
80°-90°	80.2	9.1	5.9	75°	83	96	106	104	96	88
90°-100°	68.1	7.8	5.0	85°	58	74	80	76	64	50
100°-110°	58.5	6.7	4.3	90°	50	66	70	67	56	28
110°-120°	37.0	4.2	2.7	95°	52	63	66	65	58	42
120°-130°	17.3	2.0	1.3	105°	48	53	59	59	58	51
130°-140°	6.6	0.7	0.5	115°	33	33	40	39	40	33
140°-150°	1.6	0.2	0.1	125°	18	17	19	19	21	16
150°-160°	0.4	0.0	0.0	135°	9	8	6	9	11	7
160°-170°	0.1	0.0	0.0	145°	3	2	2	2	3	2
170°-180°	0.0	0.0	0.0	155°	1	1	1	1	1	0
0°-30°	103.6	11.8	7.7	165°	0	0	0	0	0	0
0°-40°	183.9	21.0	13.6	175°	0	0	0	0	0	0
0°-60°	391.5	44.6	29.0	180°	0	0	0	0	0	0
0°-90°	687.8	78.4	50.9							
90°-120°	163.6	18.7	12.1							
90°-150°	189.1	21.6	14.0							
90°-180°	189.0	21.5	14.0							
0°-180°	877.2	100.0	65.0							



TEST NUMBER: 766694
 CATALOG NUMBER: DDEC-21xxxx

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	116.8	116.8	116.8	116.8	116.8
2.5°	116.7	116.8	116.7	116.5	116.7
5°	117.0	117.0	116.8	116.6	116.9
7.5°	118.5	118.1	118.0	118.0	118.4
10°	119.7	119.1	118.9	119.0	119.2
12.5°	120.6	120.3	120.0	120.1	120.9
15°	122.0	121.7	121.1	121.3	123.2
17.5°	123.3	122.7	122.0	122.2	122.5
20°	124.8	123.6	122.9	122.9	122.9
22.5°	126.0	124.5	123.9	123.5	123.2
25°	127.0	125.7	124.6	124.1	123.9
27.5°	127.9	126.6	125.2	124.8	124.7
30°	128.5	127.2	125.8	125.9	126.0
32.5°	129.1	127.5	126.3	126.9	127.0
35°	129.1	127.9	127.4	128.0	128.0
37.5°	128.8	128.0	128.0	128.8	129.2
40°	127.9	127.7	128.9	129.3	129.3
42.5°	127.0	127.2	129.3	129.1	129.2
45°	125.4	126.4	129.4	128.5	128.3
47.5°	122.9	125.1	129.0	127.7	127.4
50°	120.3	123.3	128.1	126.6	125.5
52.5°	117.6	121.2	126.8	125.2	124.1
55°	114.7	119.2	125.2	123.9	122.8
57.5°	111.8	116.7	123.1	122.2	120.7
60°	108.3	114.6	121.0	120.6	117.8
62.5°	105.6	111.7	118.7	118.4	115.7
65°	103.4	109.9	116.1	117.0	115.1
67.5°	100.9	107.9	112.9	116.7	113.4
70°	96.8	105.1	110.2	114.0	108.5
72.5°	88.9	101.3	108.6	109.6	102.0
75°	83.1	95.7	106.1	103.6	95.5
77.5°	77.1	97.5	100.9	96.7	88.2
80°	70.0	84.2	94.1	88.6	77.3
82.5°	63.7	79.5	86.9	82.4	70.5
85°	57.7	74.1	79.9	75.6	64.2
87.5°	53.9	69.4	74.2	71.1	59.3
90°	50.5	66.2	70.4	67.2	55.8
92.5°	50.8	64.2	67.2	65.6	56.5
95°	52.0	62.8	66.1	65.4	58.4
97.5°	52.0	61.3	66.1	64.9	59.9
100°	51.4	58.4	65.0	63.6	60.9
102.5°	50.0	55.8	62.0	61.7	60.2
105°	48.5	52.7	58.7	58.6	58.4
107.5°	45.9	49.3	54.7	54.6	55.5
110°	42.2	44.7	50.7	49.8	49.7



TEST NUMBER: 766694
 CATALOG NUMBER: DDEC-21xxxx

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	36.6	38.8	45.9	44.1	45.0
115°	32.8	33.3	39.5	38.9	40.0
117.5°	28.3	28.6	33.6	33.0	34.7
120°	24.3	24.3	28.2	28.3	30.2
122.5°	20.9	19.8	23.9	23.5	25.2
125°	17.6	16.8	19.3	19.4	21.4
127.5°	15.2	13.7	14.5	16.4	18.5
130°	13.0	11.6	11.1	13.4	16.0
132.5°	11.0	9.5	8.1	11.1	13.3
135°	9.2	7.8	6.2	8.9	11.3
137.5°	7.5	6.1	4.5	7.0	8.6
140°	5.3	4.2	2.7	4.8	6.0
142.5°	3.8	3.1	2.1	3.7	4.4
145°	2.8	2.1	1.7	2.4	3.2
147.5°	2.1	1.7	1.6	1.9	2.3
150°	1.3	1.1	1.0	1.2	1.5
152.5°	0.9	0.9	0.8	0.9	1.2
155°	0.9	0.6	0.7	0.7	0.7
157.5°	0.6	0.6	0.5	0.4	0.6
160°	0.6	0.4	0.4	0.4	0.4
162.5°	0.3	0.3	0.3	0.3	0.3
165°	0.3	0.3	0.1	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)