

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: 766697

Luminaire Tested: **DDGC-28xxxx**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: 766697
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: DDGC-28xxxx
Description: FAIL-SAFE CLEAR 12 x 12
Light Source: #049 - GE 28W2D/827 2050 LUMENS
TOTAL INPUT WATTS = 37.25 AT 120 VOLTS
Ballast/Driver: ONE MAGNATEK #4123P

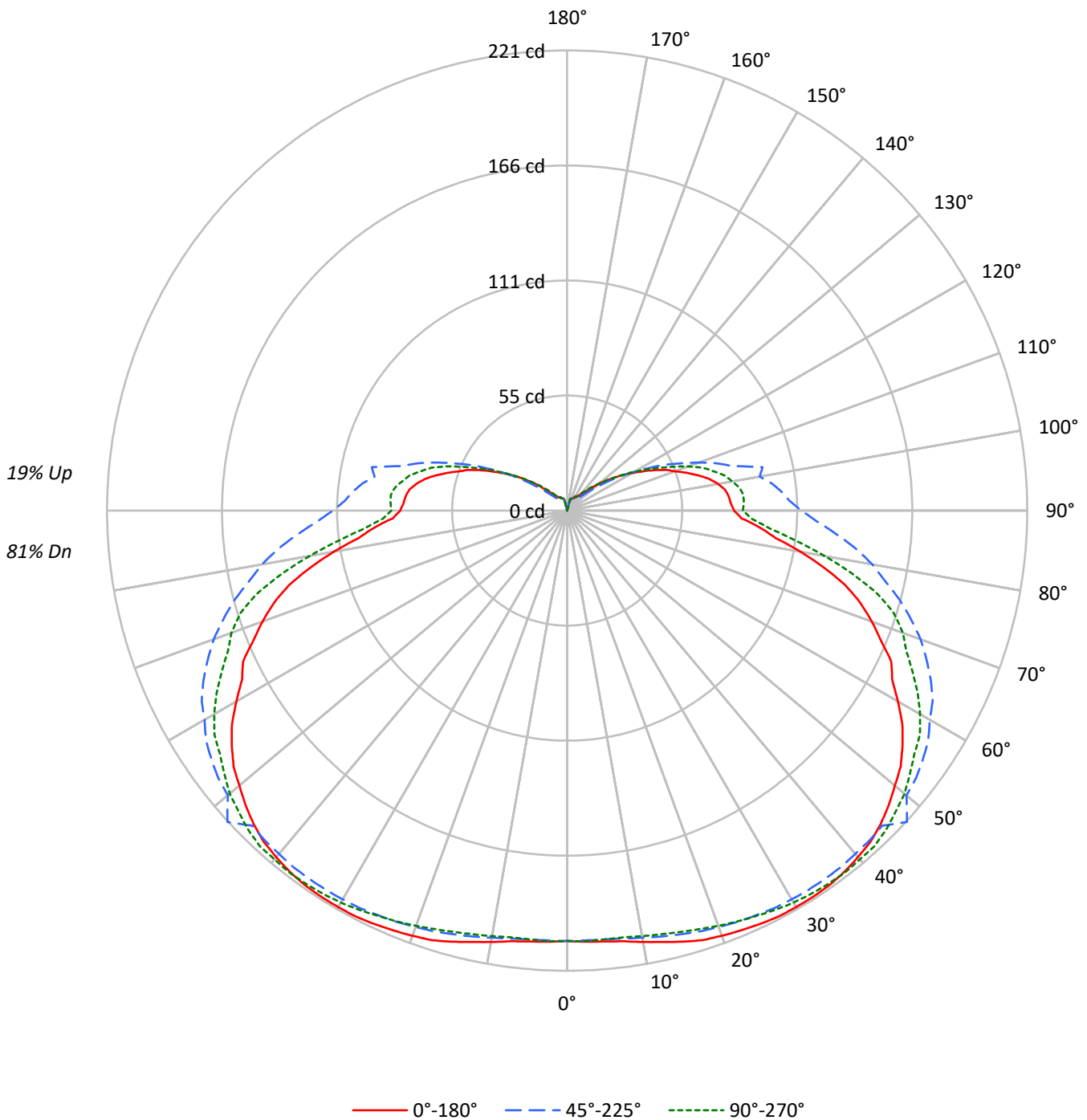
Summary

Lumens per Lamp: 2050 (1 lamp)
Luminaire Lumens: 1417.1 lumens
Efficiency: 69.1%
Efficacy: 50.6 lumens/watt
Spacing Criteria (0/90/45): 1.61 / 1.61 / 1.77
Luminous Opening: Point Source (0' x 0' x 0')
CIE Type: Semi-Direct

Input Watts (W): 28
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	79	79	79	79	76	76	76	76	69	69	69	64	64	64	58	58	58	56
1	69	65	61	57	66	62	58	55	56	53	51	51	49	47	46	45	43	40
2	62	55	49	44	58	52	47	42	47	43	39	43	39	36	39	36	33	31
3	55	47	40	35	52	45	39	34	41	35	31	37	33	29	33	30	27	25
4	50	41	34	29	47	39	33	28	35	30	26	32	28	24	29	25	22	20
5	46	36	29	24	43	34	28	23	31	26	22	28	24	20	26	22	19	17
6	42	32	25	20	40	31	24	20	28	22	18	25	21	17	23	19	16	14
7	39	29	22	18	37	27	21	17	25	20	16	23	18	15	21	17	14	12
8	36	26	20	15	34	25	19	15	23	18	14	21	16	13	19	15	12	11
9	33	24	18	14	32	23	17	13	21	16	12	19	15	12	18	14	11	9
10	31	22	16	12	30	21	15	12	19	14	11	18	13	10	16	12	10	8

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°	19.8	1.4	1.0	0°	207	207	207	207	207	
10°-20°	59.9	4.2	2.9	5°	208	207	207	207	207	20
20°-30°	99.9	7.0	4.9	15°	214	212	211	210	210	61
30°-40°	136.7	9.6	6.7	25°	219	218	214	214	215	101
40°-50°	166.2	11.7	8.1	35°	220	220	216	216	219	138
50°-60°	182.4	12.9	8.9	45°	213	214	214	215	217	164
60°-70°	183.6	13.0	9.0	55°	197	200	208	205	204	176
70°-80°	167.0	11.8	8.1	65°	172	182	193	190	183	169
80°-90°	126.4	8.9	6.2	75°	138	157	165	170	154	145
90°-100°	102.7	7.2	5.0	85°	93	114	130	119	98	80
100°-110°	80.9	5.7	3.9	90°	80	101	112	102	84	44
110°-120°	48.5	3.4	2.4	95°	78	95	103	98	85	63
120°-130°	23.7	1.7	1.2	105°	65	74	82	78	73	69
130°-140°	10.2	0.7	0.5	115°	46	47	52	48	48	46
140°-150°	5.0	0.4	0.2	125°	28	25	25	26	28	25
150°-160°	3.1	0.2	0.1	135°	14	13	10	14	15	11
160°-170°	1.1	0.1	0.1	145°	8	8	8	8	8	5
170°-180°	0.0	0.0	0.0	155°	6	6	6	7	7	3
0°-30°	179.6	12.7	8.8	165°	6	5	5	5	6	1
0°-40°	316.3	22.3	15.4	175°	0	0	0	0	0	0
0°-60°	664.8	46.9	32.4	180°	0	0	0	0	0	
0°-90°	1141.9	80.6	55.7							
90°-120°	232.1	16.4	11.3							
90°-150°	271.0	19.1	13.2							
90°-180°	275.0	19.4	13.4							
0°-180°	1417.1	100.0	69.1							



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	206.7	206.7	206.7	206.7	206.7
2.5°	207.3	206.6	206.6	206.6	207.0
5°	207.7	206.7	206.7	206.6	206.7
7.5°	208.6	207.5	207.3	206.6	206.7
10°	210.4	208.6	208.3	207.6	207.5
12.5°	212.2	210.3	209.5	209.1	208.4
15°	214.3	212.2	210.7	210.1	209.5
17.5°	216.3	213.8	211.9	211.1	210.8
20°	217.3	215.0	212.8	211.8	212.2
22.5°	218.2	216.9	213.8	212.7	213.6
25°	219.1	217.9	214.5	213.6	214.8
27.5°	219.8	219.0	215.3	214.6	216.2
30°	219.9	219.7	215.6	215.4	217.4
32.5°	219.9	219.8	215.9	216.0	218.2
35°	219.6	219.8	215.9	216.3	218.8
37.5°	218.7	219.1	215.9	216.5	219.1
40°	217.3	217.7	215.2	216.2	218.7
42.5°	215.7	216.3	214.9	216.3	218.5
45°	212.9	213.9	214.0	215.3	216.7
47.5°	209.5	211.1	221.3	214.1	214.0
50°	205.5	208.0	212.7	211.8	211.5
52.5°	201.9	204.2	211.2	208.7	207.5
55°	196.6	200.5	208.5	205.4	203.6
57.5°	190.9	196.3	205.6	202.5	200.8
60°	183.4	192.1	201.1	199.0	195.7
62.5°	176.0	187.4	197.9	195.2	189.8
65°	171.8	181.9	192.7	190.0	183.0
67.5°	163.1	176.6	186.8	184.8	176.3
70°	155.7	171.1	180.6	180.9	171.5
72.5°	147.7	164.3	173.1	176.6	164.7
75°	138.3	156.6	165.2	169.9	154.3
77.5°	126.3	147.3	156.4	159.2	140.3
80°	113.8	136.6	148.8	146.0	125.6
82.5°	101.0	124.9	139.8	132.0	110.7
85°	92.8	113.8	129.8	118.8	97.5
87.5°	83.7	105.1	120.0	108.5	88.5
90°	80.2	100.6	112.4	102.4	84.4
92.5°	78.7	97.5	106.9	99.5	84.9
95°	77.9	95.2	103.4	97.9	85.0
97.5°	76.5	92.0	99.2	94.2	83.5
100°	73.6	87.5	93.9	96.9	80.5
102.5°	70.0	81.3	96.1	84.8	77.6
105°	65.3	74.4	82.3	78.2	72.8
107.5°	60.2	68.4	75.3	70.8	68.4
110°	55.1	61.1	67.4	63.8	61.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	51.1	53.8	59.2	55.6	55.1
115°	45.8	46.6	52.1	48.0	48.4
117.5°	40.7	39.8	44.4	41.1	42.4
120°	36.0	34.0	37.2	35.8	37.1
122.5°	31.8	29.2	30.9	30.7	32.1
125°	27.5	24.8	25.1	26.1	27.8
127.5°	23.6	20.9	19.9	22.0	23.9
130°	20.2	17.2	16.0	18.4	20.3
132.5°	16.3	15.1	12.6	15.2	17.8
135°	13.8	12.8	10.3	13.5	15.1
137.5°	11.6	10.7	8.6	11.0	12.6
140°	10.4	9.0	7.9	9.5	11.0
142.5°	9.0	8.1	7.6	8.5	9.3
145°	8.1	7.5	7.5	7.8	8.4
147.5°	7.6	7.3	7.4	7.6	8.1
150°	7.3	7.1	7.1	7.4	7.8
152.5°	6.8	6.8	6.8	7.0	7.3
155°	6.5	6.4	6.4	6.6	6.8
157.5°	6.5	6.2	6.2	6.3	6.5
160°	6.1	5.9	6.0	6.0	6.2
162.5°	5.9	5.6	5.7	5.7	5.7
165°	5.7	5.4	5.4	5.4	5.6
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)