

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: P20118

Luminaire Tested: **CRF-12-232-UNV-IK12**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P20118
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: CRF-12-232-UNV-IK12
Description: FAILSAFE TRISEAL CRF SERIES 1x4 2L T8
Light Source: (2) DOUBLE ENDED T8 4 FOOT LINEAR FLUORESCENT LAMPS
F32W T8 32 WATTS
Ballast/Driver: (1) ADVANCE ELECTRONIC BALLAST
ICN-2P32

Summary

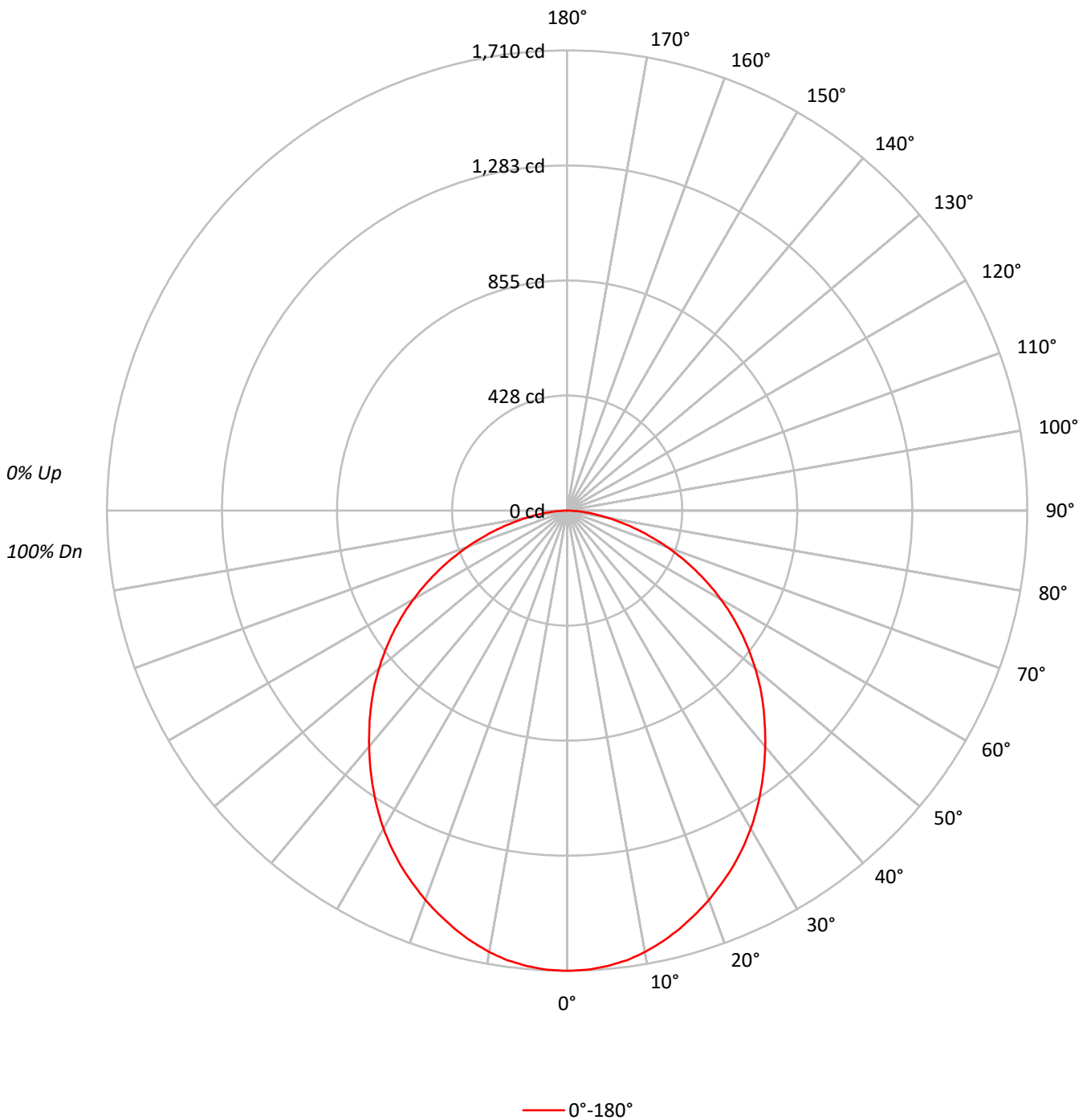
Lumens per Lamp: 3100 (2 lamps)
Luminaire Lumens: 4450.2 lumens
Efficiency: 71.8%
Efficacy: 78.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.31
Luminous Opening: Rectangular (W 0.75' x L: 3.75' x H: 0')
CIE Type: Direct

Input Watts (W): 56.4
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: P20118

CATALOG NUMBER: CRF-12-232-UNV-IK12

Luminous Intensity Polar Plot





TEST NUMBER: P20118

CATALOG NUMBER: CRF-12-232-UNV-IK12

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	85	85	85	85	83	83	83	83	80	80	80		76	76	76		73	73	73	72
1	78	75	72	69	76	73	71	68	70	68	66		67	66	64		65	63	62	60
2	71	65	61	57	69	64	60	56	62	58	55		59	56	53		57	54	52	51
3	65	58	52	47	63	56	51	47	54	50	46		52	48	45		51	47	44	43
4	60	51	45	40	58	50	44	40	48	43	39		47	42	39		45	41	38	37
5	55	46	39	35	53	45	39	34	43	38	34		42	37	34		41	37	33	32
6	51	41	35	30	49	41	35	30	39	34	30		38	33	30		37	33	29	28
7	47	37	31	27	46	37	31	27	36	30	27		35	30	26		34	29	26	25
8	44	34	28	24	43	34	28	24	33	28	24		32	27	24		31	27	23	22
9	41	31	26	22	40	31	25	22	30	25	21		29	25	21		29	24	21	20
10	38	29	23	20	38	29	23	20	28	23	20		27	23	19		27	22	19	18

AVERAGE LUMINANCE (cd/sqm):

	0°
0°	6544
5°	6527
10°	6474
15°	6379
20°	6272
25°	6161
30°	6032
35°	5878
40°	5720
45°	5580
50°	5436
55°	5265
60°	5052
65°	4772
70°	4409
75°	3933
80°	3372
85°	2591



TEST NUMBER: P20118

CATALOG NUMBER: CRF-12-232-UNV-IK12

ZONAL LUMENS:

CANDELA DISTRIBUTION:

Zone	Lumens	% Fixture	% Lamp	0°	Flux	
0°-10°	161.2	3.6	2.6	0°	1710	
10°-20°	453.8	10.2	7.3	5°	1699	161
20°-30°	671.6	15.1	10.8	15°	1610	454
30°-40°	786.9	17.7	12.7	25°	1459	672
40°-50°	795.4	17.9	12.8	35°	1258	787
50°-60°	704.7	15.8	11.4	45°	1031	795
60°-70°	521.7	11.7	8.4	55°	789	705
70°-80°	283.5	6.4	4.6	65°	527	522
80°-90°	71.4	1.6	1.2	75°	266	284
90°-100°	0.0	0.0	0.0	85°	59	71
100°-110°	0.0	0.0	0.0	90°	0	
110°-120°	0.0	0.0	0.0			
120°-130°	0.0	0.0	0.0			
130°-140°	0.0	0.0	0.0			
140°-150°	0.0	0.0	0.0			
150°-160°	0.0	0.0	0.0			
160°-170°	0.0	0.0	0.0			
170°-180°	0.0	0.0	0.0			
0°-30°	1286.6	28.9	20.8			
0°-40°	2073.5	46.6	33.4			
0°-60°	3573.6	80.3	57.6			
0°-90°	4450.2	100.0	71.8			
90°-120°	0.0	0.0	0.0			
90°-150°	0.0	0.0	0.0			
90°-180°	0.0	0.0	0.0			
0°-180°	4450.2	100.0	71.8			



TEST NUMBER: P20118

CATALOG NUMBER: CRF-12-232-UNV-IK12

CANDELA DISTRIBUTION (FULL):

	0°
0°	1710
2.5°	1708
5°	1699
7.5°	1686
10°	1666
12.5°	1640
15°	1610
17.5°	1576
20°	1540
22.5°	1500
25°	1459
27.5°	1413
30°	1365
32.5°	1313
35°	1258
37.5°	1202
40°	1145
42.5°	1088
45°	1031
47.5°	973
50°	913
52.5°	851
55°	789
57.5°	725
60°	660
62.5°	594
65°	527
67.5°	461
70°	394
72.5°	329
75°	266
77.5°	207
80°	153
82.5°	104
85°	59
87.5°	23
90°	0

(END OF REPORT)