

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P563909

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-81-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563909
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-4-LD4-4LO-40-UNV-81-86-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10838.0 lumens
Efficiency: N/A
Efficacy: 115.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

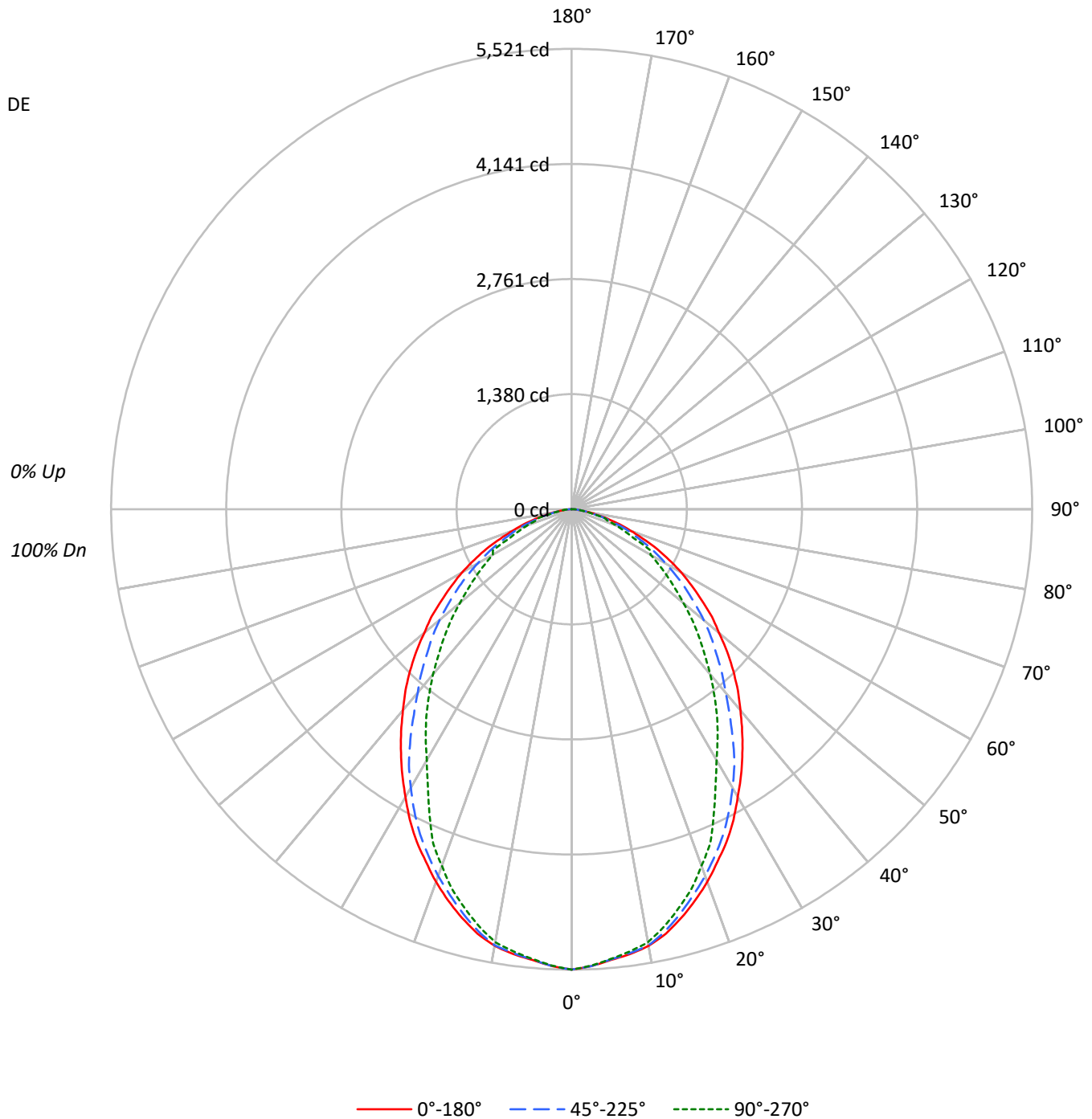
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87									87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75									75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65									65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56									56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50									50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44									44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40									40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36									36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33									33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30									30																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7428	7428	7428
5°	7327	7319	7310
10°	7264	7255	7203
15°	7068	6997	6899
20°	6808	6699	6516
25°	6528	6386	5988
30°	6188	5989	5394
35°	5860	5535	4990
40°	5527	5045	4540
45°	5210	4663	4105
50°	4823	4329	3661
55°	4461	3923	3279
60°	4088	3504	2937
65°	3597	3068	2601
70°	2963	2686	2209
75°	2355	2057	2157
80°	1582	1484	1385
85°	985	1183	1380

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5210 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	513.9	4.7
10°-20°	1410.4	13.0
20°-30°	1952.6	18.0
30°-40°	2082.0	19.2
40°-50°	1899.4	17.5
50°-60°	1488.0	13.7
60°-70°	969.8	8.9
70°-80°	429.7	4.0
80°-90°	92.3	0.9
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°	3876.8	35.8
0°-40°	5958.8	55.0
0°-60°	9346.3	86.2
0°-90°	10838.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10838.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5521	5521	5521	5521	5521	
5°	5425	5419	5419	5412	5412	515
15°	5074	5074	5023	4972	4953	1426
25°	4397	4372	4302	4148	4034	2019
35°	3568	3542	3370	3115	3038	2230
45°	2738	2681	2451	2247	2157	2109
55°	1902	1844	1672	1474	1398	1706
65°	1130	1066	964	983	817	1113
75°	453	421	396	377	415	486
85°	64	70	77	83	89	89
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5520.7	5520.7	5520.7	5520.7	5520.7
2.5°	5482.4	5482.4	5482.4	5476.1	5476.1
5°	5425.0	5418.6	5418.6	5412.2	5412.2
7.5°	5380.3	5373.9	5367.6	5361.2	5348.4
10°	5316.5	5316.5	5310.1	5278.2	5271.8
12.5°	5214.4	5208.0	5182.5	5137.8	5125.0
15°	5074.0	5074.0	5022.9	4971.9	4952.7
17.5°	4920.8	4914.4	4850.6	4799.5	4774.0
20°	4754.9	4742.1	4678.3	4595.3	4550.6
22.5°	4569.8	4569.8	4493.2	4384.7	4340.0
25°	4397.4	4371.9	4301.7	4148.5	4033.6
27.5°	4199.6	4161.3	4084.7	3867.7	3733.7
30°	3982.6	3963.4	3854.9	3574.1	3472.0
32.5°	3778.4	3746.4	3631.6	3338.0	3255.0
35°	3567.7	3542.2	3369.9	3114.6	3038.0
37.5°	3357.1	3325.2	3108.2	2904.0	2808.2
40°	3146.5	3108.2	2872.1	2687.0	2584.9
42.5°	2948.6	2897.6	2667.8	2470.0	2355.1
45°	2738.0	2680.6	2450.8	2246.6	2157.2
47.5°	2527.4	2476.4	2265.7	2055.1	1953.0
50°	2304.0	2259.4	2067.9	1857.3	1748.8
52.5°	2118.9	2048.7	1863.6	1653.0	1563.7
55°	1901.9	1844.5	1672.2	1474.3	1397.7
57.5°	1704.1	1646.6	1487.1	1302.0	1238.2
60°	1519.0	1436.0	1302.0	1142.4	1091.4
62.5°	1314.8	1250.9	1136.1	1002.0	1065.9
65°	1129.7	1065.9	963.7	982.9	816.9
67.5°	925.4	893.5	804.2	714.8	689.3
70°	753.1	714.8	682.9	587.2	561.6
72.5°	599.9	561.6	517.0	465.9	446.8
75°	453.1	421.2	395.7	376.6	414.9
77.5°	312.7	300.0	280.8	261.7	255.3
80°	204.2	197.9	191.5	185.1	178.7
82.5°	121.3	121.3	121.3	121.3	121.3
85°	63.8	70.2	76.6	83.0	89.4
87.5°	38.3	38.3	44.7	51.1	57.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)