

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: P563906

Luminaire Tested: FSR-24-4-LD4-4LO-40-UNV-81-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563906
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-81-85-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9211.0 lumens
Efficiency: N/A
Efficacy: 98.4 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

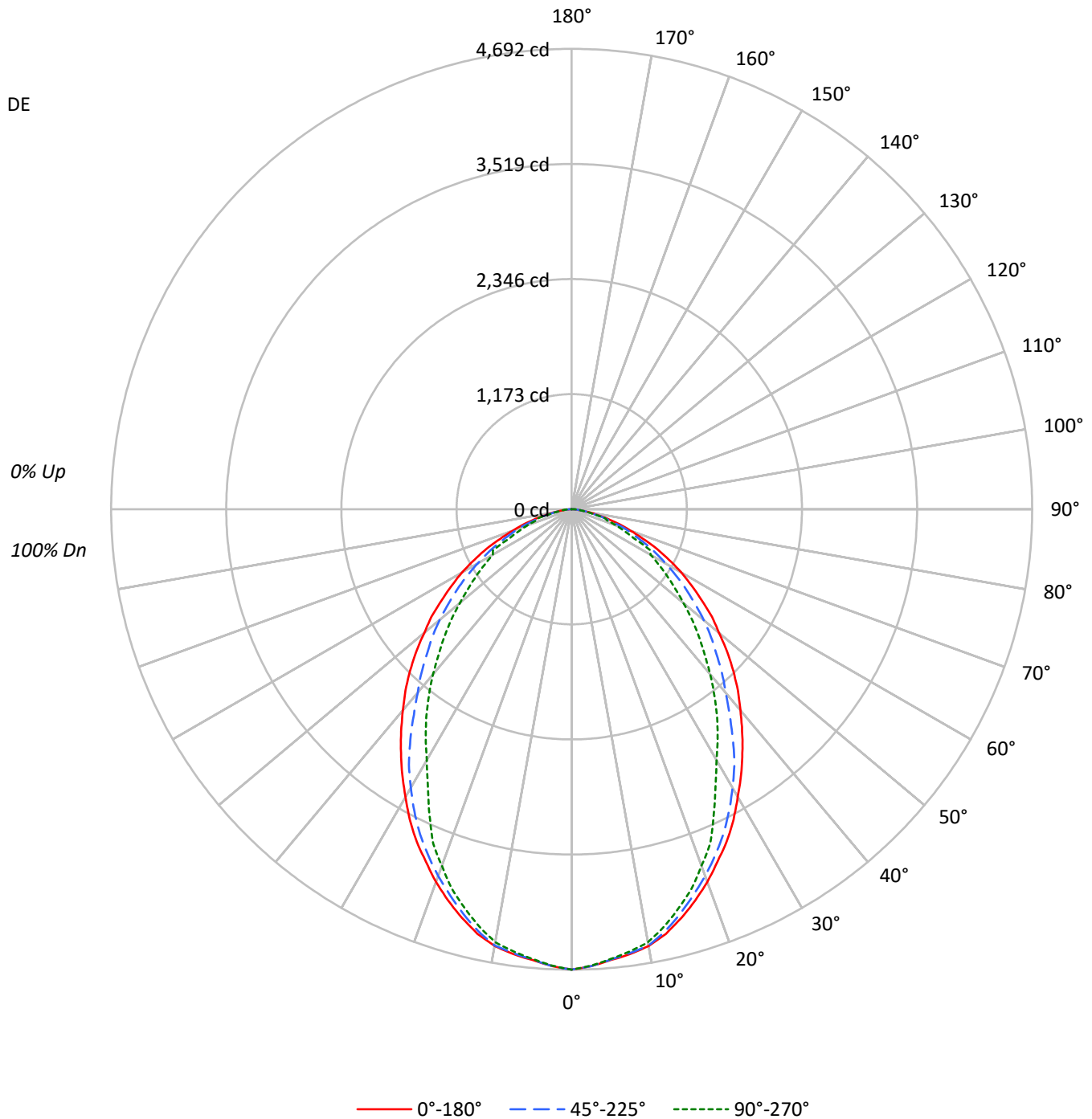
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6313	6313	6313
5°	6227	6220	6212
10°	6173	6166	6121
15°	6007	5946	5863
20°	5786	5693	5538
25°	5548	5427	5089
30°	5259	5090	4584
35°	4980	4704	4241
40°	4697	4287	3858
45°	4428	3963	3489
50°	4099	3679	3111
55°	3792	3334	2787
60°	3474	2978	2496
65°	3057	2608	2210
70°	2518	2283	1878
75°	2002	1748	1833
80°	1345	1261	1177
85°	837	1005	1172

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4428 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	436.8	4.7
10°-20°	1198.6	13.0
20°-30°	1659.4	18.0
30°-40°	1769.4	19.2
40°-50°	1614.3	17.5
50°-60°	1264.6	13.7
60°-70°	824.2	8.9
70°-80°	365.2	4.0
80°-90°	78.4	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°	3294.9	35.8
0°-40°	5064.3	55.0
0°-60°	7943.2	86.2
0°-90°	9211.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9211.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4692	4692	4692	4692	4692	
5°	4611	4605	4605	4600	4600	438
15°	4312	4312	4269	4226	4209	1212
25°	3737	3716	3656	3526	3428	1716
35°	3032	3010	2864	2647	2582	1896
45°	2327	2278	2083	1909	1833	1792
55°	1616	1568	1421	1253	1188	1450
65°	960	906	819	835	694	946
75°	385	358	336	320	353	413
85°	54	60	65	70	76	75
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4692.0	4692.0	4692.0	4692.0	4692.0
2.5°	4659.4	4659.4	4659.4	4654.0	4654.0
5°	4610.6	4605.2	4605.2	4599.7	4599.7
7.5°	4572.6	4567.2	4561.8	4556.4	4545.5
10°	4518.4	4518.4	4513.0	4485.8	4480.4
12.5°	4431.6	4426.2	4404.5	4366.5	4355.7
15°	4312.3	4312.3	4268.9	4225.5	4209.2
17.5°	4182.1	4176.7	4122.4	4079.0	4057.3
20°	4041.1	4030.2	3976.0	3905.4	3867.5
22.5°	3883.7	3883.7	3818.7	3726.4	3688.5
25°	3737.3	3715.6	3655.9	3525.8	3428.1
27.5°	3569.1	3536.6	3471.5	3287.1	3173.2
30°	3384.7	3368.4	3276.2	3037.6	2950.8
32.5°	3211.1	3184.0	3086.4	2836.9	2766.4
35°	3032.1	3010.4	2864.0	2647.0	2581.9
37.5°	2853.1	2826.0	2641.6	2468.0	2386.7
40°	2674.1	2641.6	2440.9	2283.6	2196.8
42.5°	2506.0	2462.6	2267.3	2099.2	2001.5
45°	2327.0	2278.2	2082.9	1909.3	1833.4
47.5°	2148.0	2104.6	1925.6	1746.6	1659.8
50°	1958.1	1920.2	1757.5	1578.5	1486.2
52.5°	1800.8	1741.2	1583.9	1404.9	1328.9
55°	1616.4	1567.6	1421.1	1253.0	1187.9
57.5°	1448.3	1399.5	1263.8	1106.5	1052.3
60°	1291.0	1220.5	1106.5	970.9	927.5
62.5°	1117.4	1063.1	965.5	851.6	905.8
65°	960.1	905.8	819.1	835.3	694.3
67.5°	786.5	759.4	683.5	607.5	585.8
70°	640.1	607.5	580.4	499.0	477.3
72.5°	509.9	477.3	439.4	396.0	379.7
75°	385.1	358.0	336.3	320.0	352.6
77.5°	265.8	254.9	238.7	222.4	217.0
80°	173.6	168.2	162.7	157.3	151.9
82.5°	103.1	103.1	103.1	103.1	103.1
85°	54.2	59.7	65.1	70.5	75.9
87.5°	32.5	32.5	38.0	43.4	48.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)