

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: P563396

Luminaire Tested: FSR-24-4-LD4-3LO-50-UNV-81-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563396
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-LD4-3LO-50-UNV-81-86-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7192.0 lumens
Efficiency: N/A
Efficacy: 102.5 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

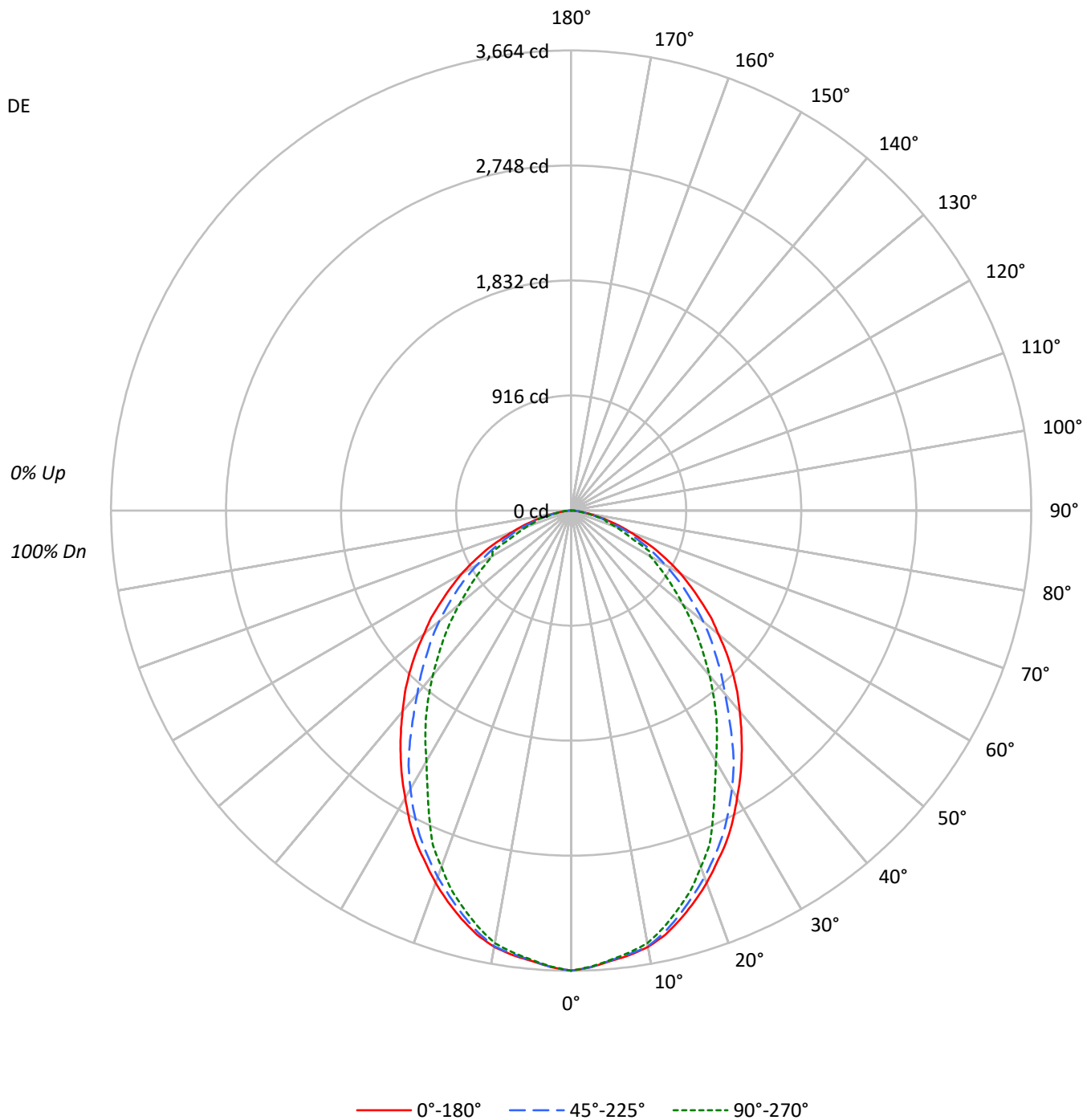
Input Watts (W): 70.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4929	4929	4929
5°	4862	4856	4851
10°	4820	4814	4780
15°	4690	4643	4578
20°	4518	4445	4324
25°	4332	4238	3974
30°	4106	3974	3580
35°	3889	3673	3311
40°	3667	3348	3013
45°	3457	3095	2724
50°	3200	2872	2429
55°	2961	2603	2176
60°	2713	2325	1949
65°	2387	2036	1726
70°	1966	1783	1466
75°	1563	1365	1431
80°	1050	985	919
85°	655	784	915

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3457 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	341.0	4.7
10°-20°	935.9	13.0
20°-30°	1295.7	18.0
30°-40°	1381.6	19.2
40°-50°	1260.4	17.5
50°-60°	987.4	13.7
60°-70°	643.6	8.9
70°-80°	285.1	4.0
80°-90°	61.2	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°	2572.6	35.8
0°-40°	3954.2	55.0
0°-60°	6202.1	86.2
0°-90°	7192.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7192.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3664	3664	3664	3664	3664	
5°	3600	3596	3596	3592	3592	342
15°	3367	3367	3333	3299	3287	947
25°	2918	2901	2855	2753	2677	1340
35°	2368	2351	2236	2067	2016	1480
45°	1817	1779	1626	1491	1432	1400
55°	1262	1224	1110	978	928	1132
65°	750	707	640	652	542	739
75°	301	280	263	250	275	322
85°	42	47	51	55	59	59
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3663.5	3663.5	3663.5	3663.5	3663.5
2.5°	3638.1	3638.1	3638.1	3633.9	3633.9
5°	3600.0	3595.7	3595.7	3591.5	3591.5
7.5°	3570.3	3566.1	3561.9	3557.6	3549.2
10°	3528.0	3528.0	3523.7	3502.6	3498.3
12.5°	3460.2	3456.0	3439.0	3409.4	3400.9
15°	3367.0	3367.0	3333.2	3299.3	3286.6
17.5°	3265.4	3261.2	3218.8	3184.9	3168.0
20°	3155.3	3146.8	3104.5	3049.4	3019.7
22.5°	3032.5	3032.5	2981.6	2909.6	2880.0
25°	2918.1	2901.2	2854.6	2752.9	2676.7
27.5°	2786.8	2761.4	2710.6	2566.6	2477.6
30°	2642.8	2630.1	2558.1	2371.8	2304.0
32.5°	2507.3	2486.1	2409.9	2215.0	2160.0
35°	2367.5	2350.6	2236.2	2066.8	2016.0
37.5°	2227.8	2206.6	2062.6	1927.0	1863.5
40°	2088.0	2062.6	1905.9	1783.0	1715.3
42.5°	1956.7	1922.8	1770.3	1639.0	1562.8
45°	1816.9	1778.8	1626.3	1490.8	1431.5
47.5°	1677.2	1643.3	1503.5	1363.8	1296.0
50°	1528.9	1499.3	1372.2	1232.5	1160.5
52.5°	1406.1	1359.5	1236.7	1096.9	1037.6
55°	1262.1	1224.0	1109.6	978.3	927.5
57.5°	1130.8	1092.7	986.8	864.0	821.6
60°	1008.0	952.9	864.0	758.1	724.2
62.5°	872.5	830.1	753.9	664.9	707.3
65°	749.6	707.3	639.5	652.2	542.1
67.5°	614.1	592.9	533.6	474.4	457.4
70°	499.8	474.4	453.2	389.6	372.7
72.5°	398.1	372.7	343.1	309.2	296.5
75°	300.7	279.5	262.6	249.9	275.3
77.5°	207.5	199.1	186.4	173.6	169.4
80°	135.5	131.3	127.1	122.8	118.6
82.5°	80.5	80.5	80.5	80.5	80.5
85°	42.4	46.6	50.8	55.1	59.3
87.5°	25.4	25.4	29.6	33.9	38.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)