

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: P562844

Luminaire Tested: FSR-24-4-LD4-2LO-50-UNV-82-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562844
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-LD4-2LO-50-UNV-82-96-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4801.0 lumens
Efficiency: N/A
Efficacy: 102.6 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

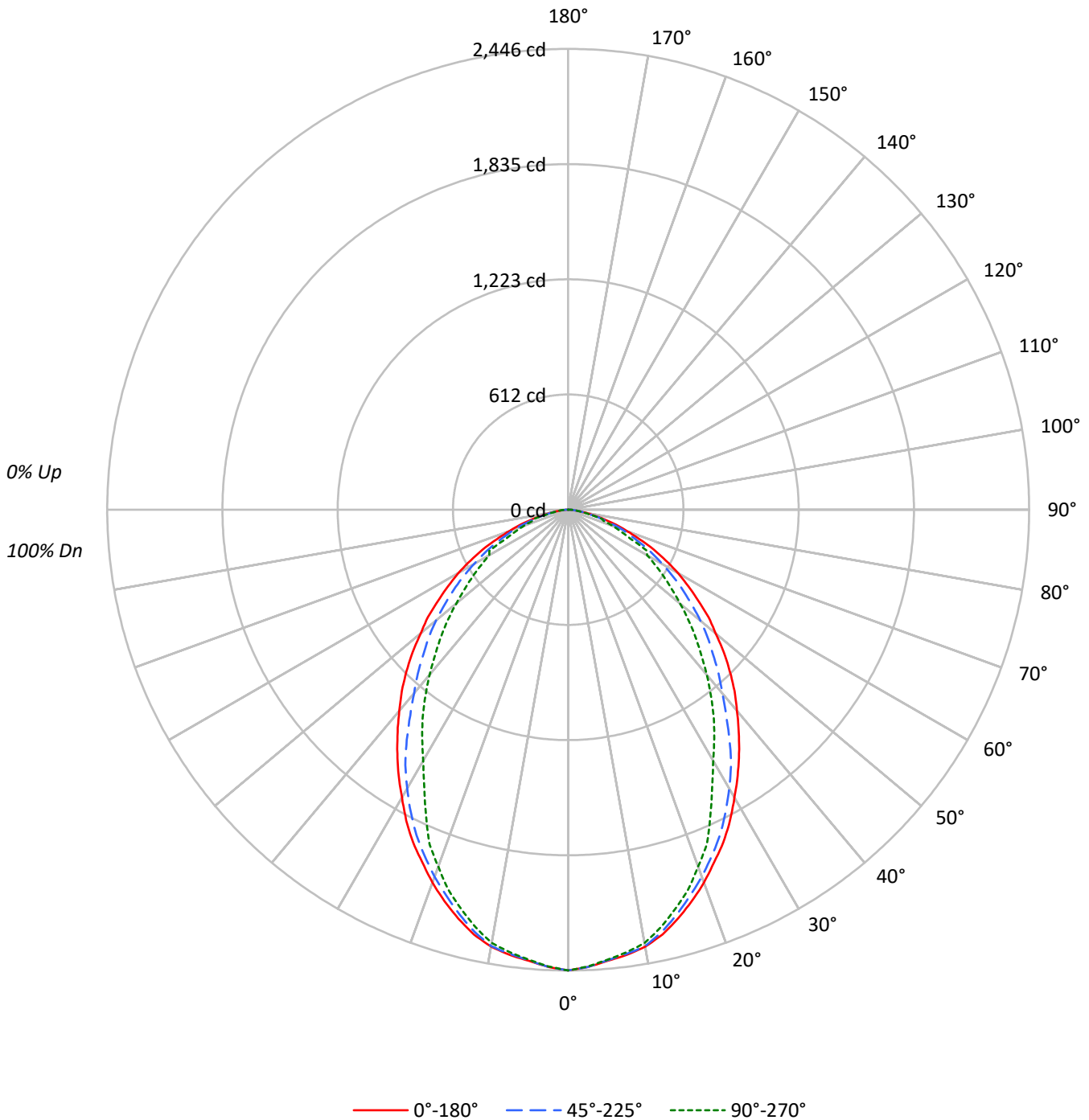
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	3291	3291	3291
5°	3246	3242	3238
10°	3218	3214	3191
15°	3131	3099	3056
20°	3016	2967	2886
25°	2892	2829	2653
30°	2741	2653	2389
35°	2596	2452	2211
40°	2448	2235	2011
45°	2308	2066	1818
50°	2136	1917	1622
55°	1976	1738	1453
60°	1811	1552	1301
65°	1593	1359	1152
70°	1312	1190	979
75°	1043	911	955
80°	701	657	614
85°	437	523	611

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2308 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	227.6	4.7
10°-20°	624.8	13.0
20°-30°	864.9	18.0
30°-40°	922.3	19.2
40°-50°	841.4	17.5
50°-60°	659.2	13.7
60°-70°	429.6	8.9
70°-80°	190.3	4.0
80°-90°	40.9	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°	1717.4	35.8
0°-40°	2639.6	55.0
0°-60°	4140.2	86.2
0°-90°	4801.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4801.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2446	2446	2446	2446	2446	
5°	2403	2400	2400	2398	2398	228
15°	2248	2248	2225	2202	2194	632
25°	1948	1937	1906	1838	1787	894
35°	1580	1569	1493	1380	1346	988
45°	1213	1187	1086	995	956	934
55°	842	817	741	653	619	756
65°	500	472	427	435	362	493
75°	201	187	175	167	184	215
85°	28	31	34	37	40	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2445.6	2445.6	2445.6	2445.6	2445.6
2.5°	2428.6	2428.6	2428.6	2425.8	2425.8
5°	2403.2	2400.3	2400.3	2397.5	2397.5
7.5°	2383.4	2380.5	2377.7	2374.9	2369.2
10°	2355.1	2355.1	2352.3	2338.1	2335.3
12.5°	2309.9	2307.0	2295.7	2275.9	2270.3
15°	2247.7	2247.7	2225.0	2202.4	2193.9
17.5°	2179.8	2177.0	2148.7	2126.1	2114.8
20°	2106.3	2100.6	2072.4	2035.6	2015.8
22.5°	2024.3	2024.3	1990.4	1942.3	1922.5
25°	1948.0	1936.7	1905.6	1837.7	1786.8
27.5°	1860.3	1843.4	1809.4	1713.3	1653.9
30°	1764.2	1755.7	1707.7	1583.3	1538.0
32.5°	1673.7	1659.6	1608.7	1478.6	1441.9
35°	1580.4	1569.1	1492.8	1379.7	1345.8
37.5°	1487.1	1473.0	1376.9	1286.4	1244.0
40°	1393.8	1376.9	1272.3	1190.3	1145.0
42.5°	1306.2	1283.6	1181.8	1094.1	1043.3
45°	1212.9	1187.4	1085.7	995.2	955.6
47.5°	1119.6	1097.0	1003.7	910.4	865.1
50°	1020.6	1000.8	916.0	822.7	774.7
52.5°	938.6	907.5	825.6	732.3	692.7
55°	842.5	817.1	740.7	653.1	619.2
57.5°	754.9	729.4	658.7	576.8	548.5
60°	672.9	636.1	576.8	506.1	483.5
62.5°	582.4	554.1	503.2	443.9	472.1
65°	500.4	472.1	426.9	435.4	361.9
67.5°	410.0	395.8	356.2	316.7	305.3
70°	333.6	316.7	302.5	260.1	248.8
72.5°	265.8	248.8	229.0	206.4	197.9
75°	200.7	186.6	175.3	166.8	183.8
77.5°	138.5	132.9	124.4	115.9	113.1
80°	90.5	87.6	84.8	82.0	79.2
82.5°	53.7	53.7	53.7	53.7	53.7
85°	28.3	31.1	33.9	36.8	39.6
87.5°	17.0	17.0	19.8	22.6	25.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)