

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: P561666

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-81-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561666
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-12-4-LD4-2LO-50-UNV-81-85-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4127.0 lumens
Efficiency: N/A
Efficacy: 88.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

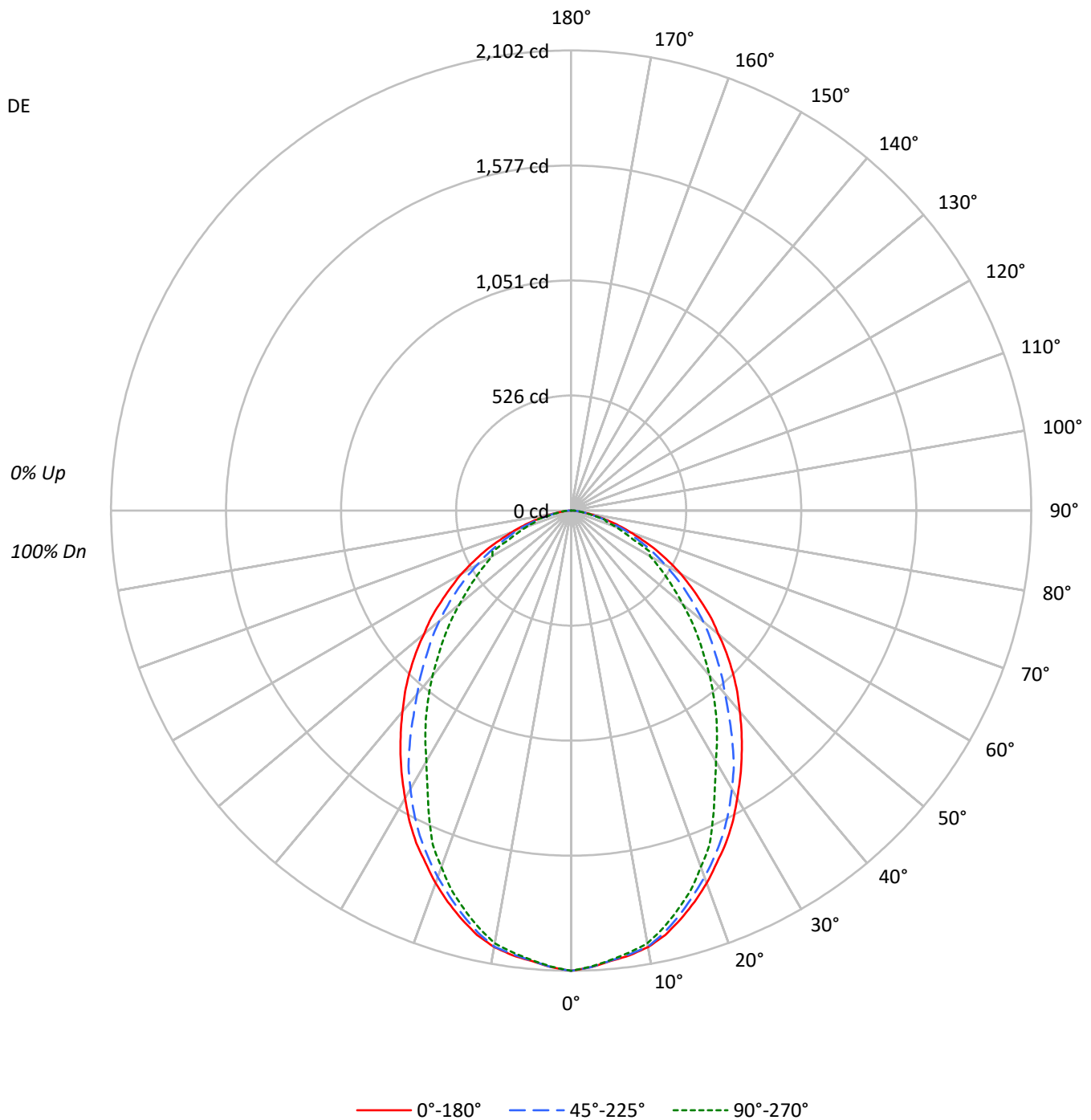
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5657	5657	5657
5°	5580	5574	5567
10°	5532	5525	5485
15°	5383	5329	5254
20°	5185	5101	4962
25°	4972	4863	4561
30°	4712	4561	4108
35°	4463	4215	3800
40°	4209	3842	3458
45°	3968	3551	3126
50°	3673	3296	2788
55°	3398	2987	2497
60°	3113	2668	2237
65°	2739	2337	1981
70°	2257	2046	1683
75°	1795	1567	1643
80°	1206	1130	1054
85°	750	902	1050

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3968 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	195.7	4.7
10°-20°	537.1	13.0
20°-30°	743.5	18.0
30°-40°	792.8	19.2
40°-50°	723.3	17.5
50°-60°	566.6	13.7
60°-70°	369.3	8.9
70°-80°	163.6	4.0
80°-90°	35.1	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°	1476.3	35.8
0°-40°	2269.1	55.0
0°-60°	3559.0	86.2
0°-90°	4127.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4127.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2102	2102	2102	2102	2102	
5°	2066	2063	2063	2061	2061	196
15°	1932	1932	1913	1893	1886	543
25°	1674	1665	1638	1580	1536	769
35°	1359	1349	1283	1186	1157	849
45°	1043	1021	933	856	822	803
55°	724	702	637	561	532	650
65°	430	406	367	374	311	424
75°	173	160	151	143	158	185
85°	24	27	29	32	34	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2102.2	2102.2	2102.2	2102.2	2102.2
2.5°	2087.7	2087.7	2087.7	2085.2	2085.2
5°	2065.8	2063.4	2063.4	2060.9	2060.9
7.5°	2048.8	2046.3	2043.9	2041.5	2036.6
10°	2024.5	2024.5	2022.0	2009.9	2007.5
12.5°	1985.6	1983.2	1973.4	1956.4	1951.6
15°	1932.1	1932.1	1912.7	1893.2	1885.9
17.5°	1873.8	1871.4	1847.1	1827.6	1817.9
20°	1810.6	1805.7	1781.4	1749.8	1732.8
22.5°	1740.1	1740.1	1711.0	1669.6	1652.6
25°	1674.5	1664.8	1638.0	1579.7	1536.0
27.5°	1599.2	1584.6	1555.4	1472.8	1421.7
30°	1516.5	1509.2	1467.9	1361.0	1322.1
32.5°	1438.8	1426.6	1382.9	1271.1	1239.5
35°	1358.6	1348.8	1283.2	1186.0	1156.8
37.5°	1278.4	1266.2	1183.6	1105.8	1069.3
40°	1198.2	1183.6	1093.7	1023.2	984.3
42.5°	1122.8	1103.4	1015.9	940.5	896.8
45°	1042.6	1020.7	933.2	855.5	821.5
47.5°	962.4	943.0	862.8	782.6	743.7
50°	877.4	860.3	787.4	707.2	665.9
52.5°	806.9	780.1	709.7	629.5	595.4
55°	724.2	702.4	636.7	561.4	532.2
57.5°	648.9	627.0	566.3	495.8	471.5
60°	578.4	546.8	495.8	435.0	415.6
62.5°	500.6	476.3	432.6	381.6	405.9
65°	430.2	405.9	367.0	374.3	311.1
67.5°	352.4	340.2	306.2	272.2	262.5
70°	286.8	272.2	260.0	223.6	213.9
72.5°	228.5	213.9	196.9	177.4	170.1
75°	172.6	160.4	150.7	143.4	158.0
77.5°	119.1	114.2	106.9	99.6	97.2
80°	77.8	75.3	72.9	70.5	68.0
82.5°	46.2	46.2	46.2	46.2	46.2
85°	24.3	26.7	29.2	31.6	34.0
87.5°	14.6	14.6	17.0	19.4	21.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)