

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: P561608

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-81-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561608
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-40-UNV-81-88-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3377.0 lumens
Efficiency: N/A
Efficacy: 72.2 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

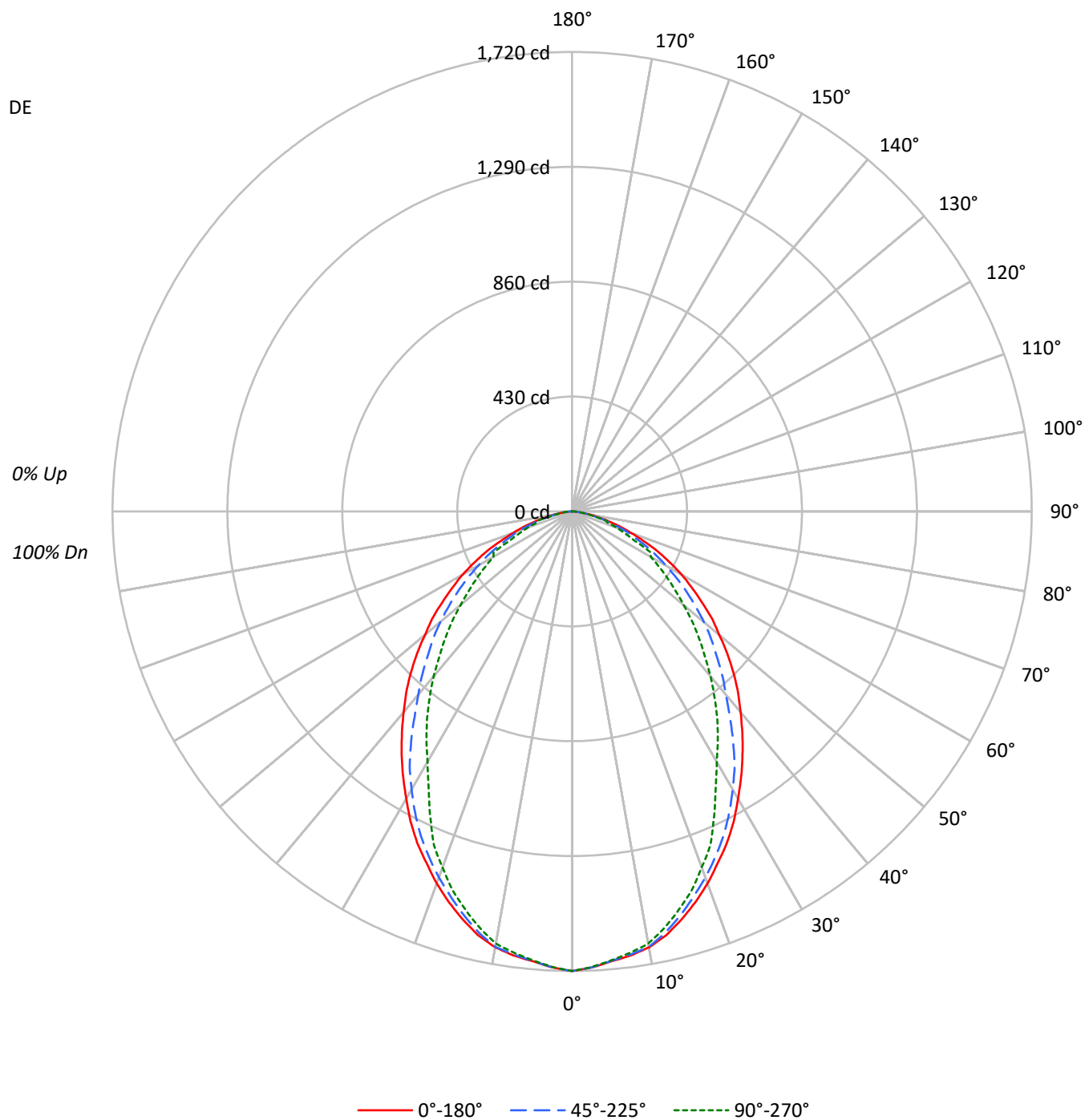
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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			
RW	70	50	30	10	70	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°	4629	4629	4629
5°	4566	4561	4555
10°	4527	4521	4488
15°	4405	4360	4299
20°	4243	4174	4060
25°	4068	3980	3732
30°	3856	3732	3361
35°	3652	3449	3110
40°	3444	3144	2829
45°	3247	2906	2558
50°	3005	2697	2281
55°	2780	2444	2043
60°	2547	2183	1830
65°	2241	1912	1621
70°	1847	1674	1377
75°	1468	1282	1344
80°	986	925	863
85°	614	738	858

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3247 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.1	4.7
10°-20°	439.5	13.0
20°-30°	608.4	18.0
30°-40°	648.7	19.2
40°-50°	591.8	17.5
50°-60°	463.7	13.7
60°-70°	302.2	8.9
70°-80°	133.9	4.0
80°-90°	28.8	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°	1208.0	35.8
0°-40°	1856.7	55.0
0°-60°	2912.2	86.2
0°-90°	3377.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3377.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1720	1720	1720	1720	1720	
5°	1690	1688	1688	1686	1686	160
15°	1581	1581	1565	1549	1543	444
25°	1370	1362	1340	1293	1257	629
35°	1112	1104	1050	970	947	695
45°	853	835	764	700	672	657
55°	593	575	521	459	436	532
65°	352	332	300	306	254	347
75°	141	131	123	117	129	151
85°	20	22	24	26	28	28
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1720.2	1720.2	1720.2	1720.2	1720.2
2.5°	1708.3	1708.3	1708.3	1706.3	1706.3
5°	1690.4	1688.4	1688.4	1686.4	1686.4
7.5°	1676.4	1674.5	1672.5	1670.5	1666.5
10°	1656.6	1656.6	1654.6	1644.6	1642.6
12.5°	1624.7	1622.8	1614.8	1600.9	1596.9
15°	1581.0	1581.0	1565.1	1549.2	1543.2
17.5°	1533.3	1531.3	1511.4	1495.5	1487.5
20°	1481.6	1477.6	1457.7	1431.8	1417.9
22.5°	1423.9	1423.9	1400.0	1366.2	1352.3
25°	1370.2	1362.2	1340.4	1292.6	1256.8
27.5°	1308.5	1296.6	1272.7	1205.1	1163.4
30°	1240.9	1235.0	1201.2	1113.7	1081.8
32.5°	1177.3	1167.3	1131.6	1040.1	1014.2
35°	1111.7	1103.7	1050.0	970.5	946.6
37.5°	1046.0	1036.1	968.5	904.8	875.0
40°	980.4	968.5	894.9	837.2	805.4
42.5°	918.8	902.9	831.3	769.6	733.8
45°	853.1	835.2	763.6	700.0	672.2
47.5°	787.5	771.6	706.0	640.4	608.5
50°	717.9	704.0	644.3	578.7	544.9
52.5°	660.2	638.4	580.7	515.1	487.2
55°	592.6	574.7	521.0	459.4	435.5
57.5°	531.0	513.1	463.4	405.7	385.8
60°	473.3	447.5	405.7	356.0	340.1
62.5°	409.7	389.8	354.0	312.2	332.1
65°	352.0	332.1	300.3	306.3	254.5
67.5°	288.4	278.4	250.6	222.7	214.8
70°	234.7	222.7	212.8	183.0	175.0
72.5°	186.9	175.0	161.1	145.2	139.2
75°	141.2	131.3	123.3	117.3	129.3
77.5°	97.4	93.5	87.5	81.5	79.5
80°	63.6	61.6	59.7	57.7	55.7
82.5°	37.8	37.8	37.8	37.8	37.8
85°	19.9	21.9	23.9	25.9	27.8
87.5°	11.9	11.9	13.9	15.9	17.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)