

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: P561584

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-80-84-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561584
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-80-84-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRON
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4210.0 lumens
Efficiency: N/A
Efficacy: 90.0 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

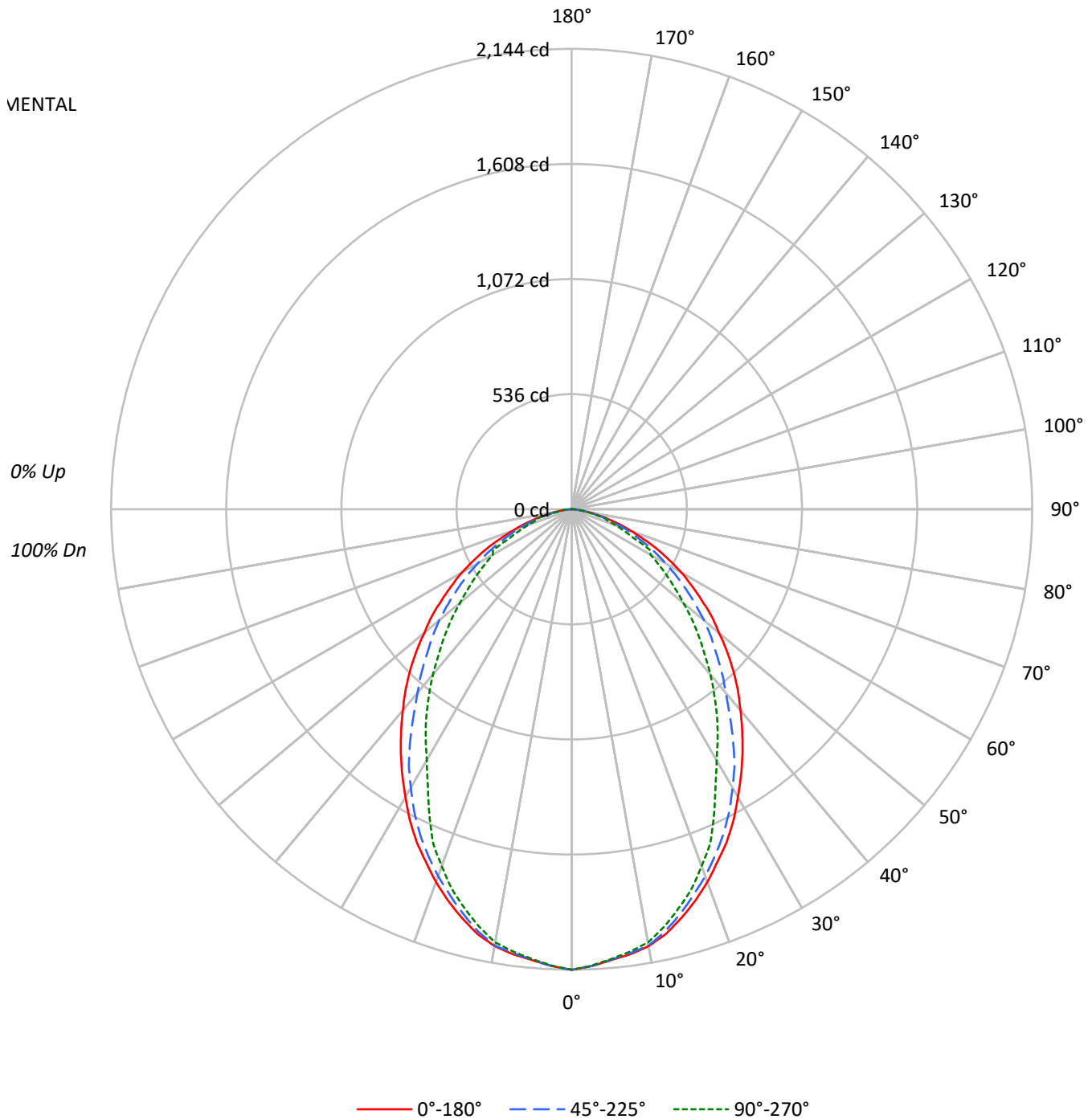
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5771	5771	5771
5°	5692	5686	5679
10°	5643	5636	5596
15°	5491	5436	5360
20°	5289	5204	5062
25°	5072	4961	4652
30°	4807	4653	4191
35°	4553	4300	3877
40°	4294	3919	3527
45°	4048	3623	3189
50°	3747	3363	2844
55°	3466	3048	2547
60°	3176	2722	2281
65°	2794	2384	2020
70°	2301	2087	1717
75°	1830	1598	1675
80°	1229	1153	1075
85°	766	920	1071

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4048 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.6	4.7
10°-20°	547.9	13.0
20°-30°	758.5	18.0
30°-40°	808.8	19.2
40°-50°	737.8	17.5
50°-60°	578.0	13.7
60°-70°	376.7	8.9
70°-80°	166.9	4.0
80°-90°	35.8	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°	1506.0	35.8
0°-40°	2314.7	55.0
0°-60°	3630.5	86.2
0°-90°	4210.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4210.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2144	2144	2144	2144	2144	
5°	2107	2105	2105	2102	2102	200
15°	1971	1971	1951	1931	1924	554
25°	1708	1698	1671	1612	1567	784
35°	1386	1376	1309	1210	1180	866
45°	1064	1041	952	873	838	819
55°	739	716	650	573	543	663
65°	439	414	374	382	317	432
75°	176	164	154	146	161	189
85°	25	27	30	32	35	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2144.5	2144.5	2144.5	2144.5	2144.5
2.5°	2129.6	2129.6	2129.6	2127.2	2127.2
5°	2107.3	2104.9	2104.9	2102.4	2102.4
7.5°	2090.0	2087.5	2085.0	2082.5	2077.6
10°	2065.2	2065.2	2062.7	2050.3	2047.8
12.5°	2025.5	2023.0	2013.1	1995.8	1990.8
15°	1971.0	1971.0	1951.1	1931.3	1923.9
17.5°	1911.5	1909.0	1884.2	1864.4	1854.5
20°	1847.0	1842.1	1817.3	1785.0	1767.7
22.5°	1775.1	1775.1	1745.4	1703.2	1685.9
25°	1708.2	1698.3	1671.0	1611.5	1566.9
27.5°	1631.3	1616.4	1586.7	1502.4	1450.3
30°	1547.0	1539.6	1497.4	1388.4	1348.7
32.5°	1467.7	1455.3	1410.7	1296.6	1264.4
35°	1385.9	1376.0	1309.0	1209.9	1180.1
37.5°	1304.1	1291.7	1207.4	1128.0	1090.9
40°	1222.3	1207.4	1115.6	1043.7	1004.1
42.5°	1145.4	1125.6	1036.3	959.5	914.8
45°	1063.6	1041.3	952.0	872.7	838.0
47.5°	981.8	961.9	880.1	798.3	758.6
50°	895.0	877.6	803.3	721.5	679.3
52.5°	823.1	795.8	723.9	642.1	607.4
55°	738.8	716.5	649.6	572.7	542.9
57.5°	661.9	639.6	577.7	505.8	481.0
60°	590.1	557.8	505.8	443.8	423.9
62.5°	510.7	485.9	441.3	389.2	414.0
65°	438.8	414.0	374.4	381.8	317.3
67.5°	359.5	347.1	312.4	277.7	267.8
70°	292.5	277.7	265.3	228.1	218.2
72.5°	233.0	218.2	200.8	181.0	173.5
75°	176.0	163.6	153.7	146.3	161.1
77.5°	121.5	116.5	109.1	101.6	99.2
80°	79.3	76.9	74.4	71.9	69.4
82.5°	47.1	47.1	47.1	47.1	47.1
85°	24.8	27.3	29.8	32.2	34.7
87.5°	14.9	14.9	17.4	19.8	22.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)