

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: P561593

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-80-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561593
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-80-88-EDD
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRON
SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4230.0 lumens
Efficiency: N/A
Efficacy: 90.4 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

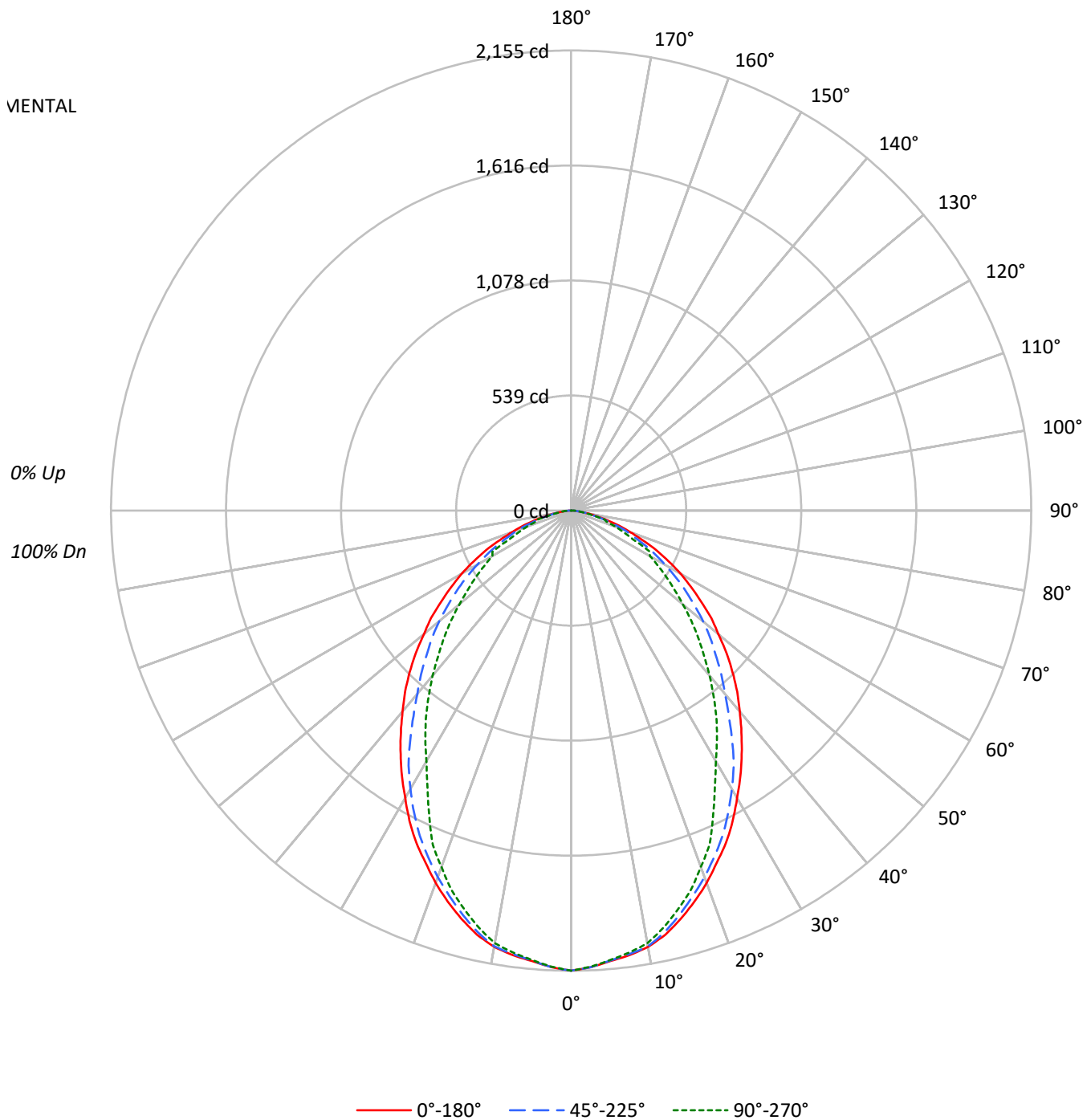
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5798	5798	5798
5°	5719	5713	5706
10°	5670	5663	5622
15°	5517	5461	5385
20°	5314	5229	5086
25°	5096	4985	4674
30°	4830	4675	4211
35°	4574	4321	3895
40°	4314	3938	3544
45°	4067	3640	3204
50°	3764	3379	2857
55°	3483	3062	2559
60°	3191	2735	2293
65°	2807	2395	2030
70°	2312	2097	1725
75°	1839	1605	1683
80°	1235	1158	1080
85°	769	923	1078

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4067 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	200.6	4.7
10°-20°	550.5	13.0
20°-30°	762.1	18.0
30°-40°	812.6	19.2
40°-50°	741.3	17.5
50°-60°	580.8	13.7
60°-70°	378.5	8.9
70°-80°	167.7	4.0
80°-90°	36.0	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°	1513.1	35.8
0°-40°	2325.7	55.0
0°-60°	3647.8	86.2
0°-90°	4230.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4230.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2155	2155	2155	2155	2155	
5°	2117	2115	2115	2112	2112	201
15°	1980	1980	1960	1940	1933	557
25°	1716	1706	1679	1619	1574	788
35°	1392	1382	1315	1216	1186	871
45°	1069	1046	956	877	842	823
55°	742	720	653	575	546	666
65°	441	416	376	384	319	435
75°	177	164	154	147	162	190
85°	25	27	30	32	35	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2154.7	2154.7	2154.7	2154.7	2154.7
2.5°	2139.8	2139.8	2139.8	2137.3	2137.3
5°	2117.3	2114.8	2114.8	2112.4	2112.4
7.5°	2099.9	2097.4	2094.9	2092.4	2087.4
10°	2075.0	2075.0	2072.5	2060.0	2057.6
12.5°	2035.1	2032.6	2022.7	2005.2	2000.3
15°	1980.3	1980.3	1960.4	1940.5	1933.0
17.5°	1920.6	1918.1	1893.2	1873.2	1863.3
20°	1855.8	1850.8	1825.9	1793.5	1776.1
22.5°	1783.5	1783.5	1753.7	1711.3	1693.9
25°	1716.3	1706.3	1678.9	1619.1	1574.3
27.5°	1639.1	1624.1	1594.2	1509.5	1457.2
30°	1554.4	1546.9	1504.6	1395.0	1355.1
32.5°	1474.7	1462.2	1417.4	1302.8	1270.4
35°	1392.5	1382.5	1315.2	1215.6	1185.7
37.5°	1310.3	1297.8	1213.1	1133.4	1096.0
40°	1228.1	1213.1	1120.9	1048.7	1008.9
42.5°	1150.8	1130.9	1041.2	964.0	919.2
45°	1068.6	1046.2	956.5	876.8	842.0
47.5°	986.4	966.5	884.3	802.1	762.2
50°	899.2	881.8	807.1	724.9	682.5
52.5°	827.0	799.6	727.4	645.2	610.3
55°	742.3	719.9	652.6	575.4	545.5
57.5°	665.1	642.7	580.4	508.2	483.3
60°	592.9	560.5	508.2	445.9	426.0
62.5°	513.1	488.2	443.4	391.1	416.0
65°	440.9	416.0	376.1	383.6	318.8
67.5°	361.2	348.7	313.9	279.0	269.0
70°	293.9	279.0	266.5	229.2	219.2
72.5°	234.2	219.2	201.8	181.8	174.4
75°	176.9	164.4	154.4	147.0	161.9
77.5°	122.1	117.1	109.6	102.1	99.6
80°	79.7	77.2	74.7	72.2	69.7
82.5°	47.3	47.3	47.3	47.3	47.3
85°	24.9	27.4	29.9	32.4	34.9
87.5°	14.9	14.9	17.4	19.9	22.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)