

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: P561594

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-80-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561594
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-80-94-EDD-90
Description: 1X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4219.0 lumens
Efficiency: N/A
Efficacy: 90.1 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

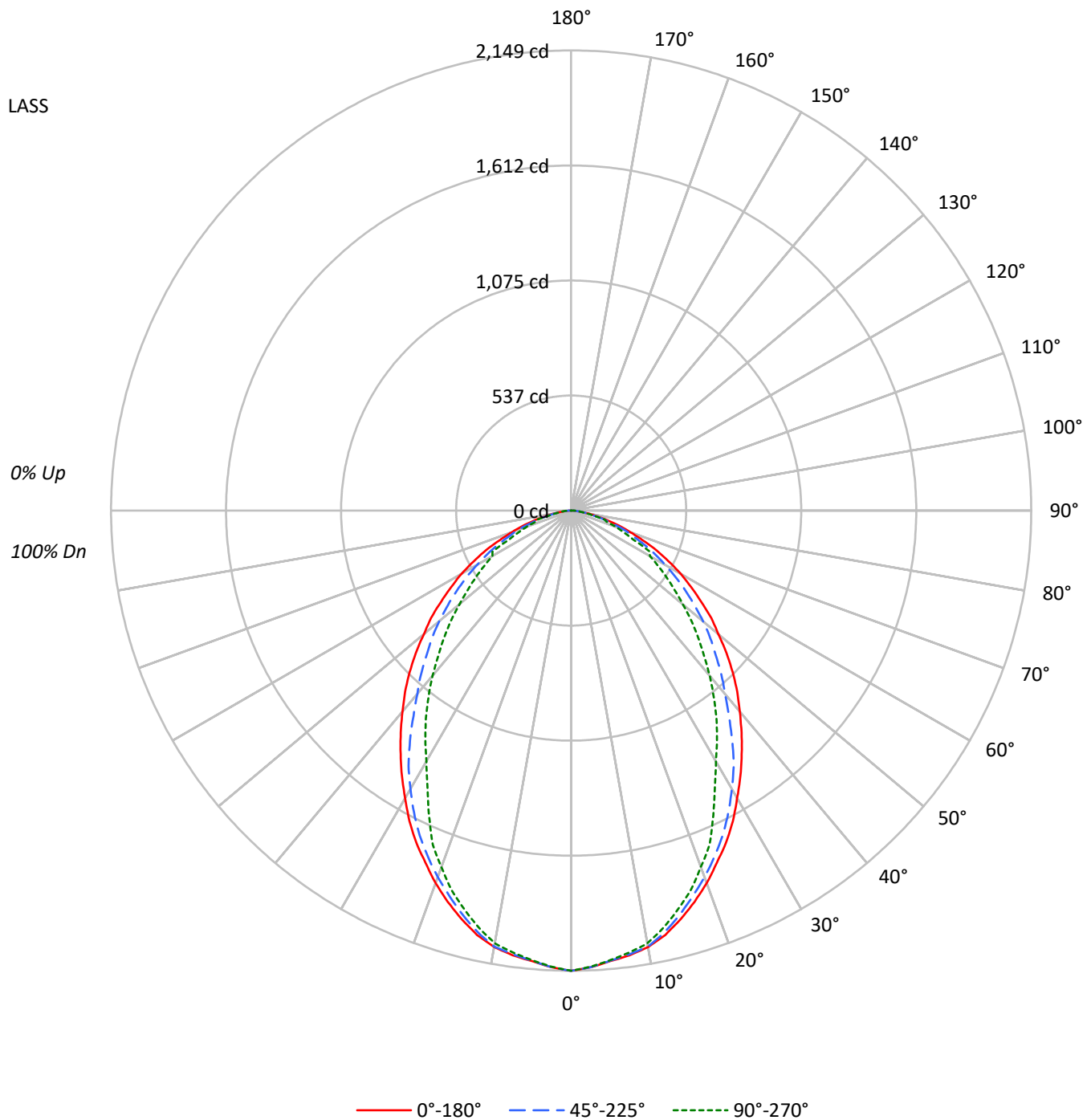
Input Watts (W): 46.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5783	5783	5783
5°	5705	5698	5691
10°	5655	5648	5608
15°	5503	5447	5371
20°	5301	5215	5073
25°	5083	4972	4662
30°	4817	4663	4200
35°	4562	4309	3885
40°	4303	3927	3535
45°	4056	3631	3196
50°	3755	3370	2850
55°	3474	3054	2553
60°	3182	2728	2287
65°	2800	2389	2025
70°	2307	2091	1720
75°	1834	1601	1679
80°	1232	1155	1079
85°	766	920	1074

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4056 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	200.1	4.7
10°-20°	549.0	13.0
20°-30°	760.1	18.0
30°-40°	810.5	19.2
40°-50°	739.4	17.5
50°-60°	579.2	13.7
60°-70°	377.5	8.9
70°-80°	167.3	4.0
80°-90°	35.9	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°	1509.2	35.8
0°-40°	2319.6	55.0
0°-60°	3638.3	86.2
0°-90°	4219.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4219.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2149	2149	2149	2149	2149	
5°	2112	2109	2109	2107	2107	200
15°	1975	1975	1955	1935	1928	555
25°	1712	1702	1675	1615	1570	786
35°	1389	1379	1312	1212	1183	868
45°	1066	1044	954	874	840	821
55°	740	718	651	574	544	664
65°	440	415	375	383	318	433
75°	176	164	154	147	162	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°	2149.1	2149.1	2149.1	2149.1	2149.1
2.5°	2134.2	2134.2	2134.2	2131.7	2131.7
5°	2111.8	2109.4	2109.4	2106.9	2106.9
7.5°	2094.4	2092.0	2089.5	2087.0	2082.0
10°	2069.6	2069.6	2067.1	2054.7	2052.2
12.5°	2029.8	2027.4	2017.4	2000.0	1995.1
15°	1975.2	1975.2	1955.3	1935.4	1928.0
17.5°	1915.6	1913.1	1888.2	1868.4	1858.4
20°	1851.0	1846.0	1821.1	1788.8	1771.5
22.5°	1778.9	1778.9	1749.1	1706.9	1689.5
25°	1711.8	1701.9	1674.6	1614.9	1570.2
27.5°	1634.8	1619.9	1590.1	1505.6	1453.4
30°	1550.3	1542.9	1500.6	1391.3	1351.6
32.5°	1470.8	1458.4	1413.7	1299.4	1267.1
35°	1388.8	1378.9	1311.8	1212.4	1182.6
37.5°	1306.9	1294.4	1210.0	1130.5	1093.2
40°	1224.9	1210.0	1118.0	1046.0	1006.2
42.5°	1147.8	1128.0	1038.5	961.5	916.8
45°	1065.9	1043.5	954.1	874.5	839.8
47.5°	983.9	964.0	882.0	800.0	760.3
50°	896.9	879.5	805.0	723.0	680.8
52.5°	824.9	797.5	725.5	643.5	608.7
55°	740.4	718.0	650.9	573.9	544.1
57.5°	663.4	641.0	578.9	506.8	482.0
60°	591.3	559.0	506.8	444.7	424.9
62.5°	511.8	487.0	442.2	390.1	414.9
65°	439.8	414.9	375.2	382.6	318.0
67.5°	360.3	347.8	313.0	278.3	268.3
70°	293.2	278.3	265.8	228.6	218.6
72.5°	233.5	218.6	201.2	181.4	173.9
75°	176.4	164.0	154.0	146.6	161.5
77.5°	121.7	116.8	109.3	101.9	99.4
80°	79.5	77.0	74.5	72.1	69.6
82.5°	47.2	47.2	47.2	47.2	47.2
85°	24.8	27.3	29.8	32.3	34.8
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)