

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: P564086

Luminaire Tested: FSR-24-4-LD4-4STD-40-UNV-80-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564086
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-24-4-LD4-4STD-40-UNV-80-87-EDD-90
Description: 2X4 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONM
SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12421.0 lumens
Efficiency: N/A
Efficacy: 93.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

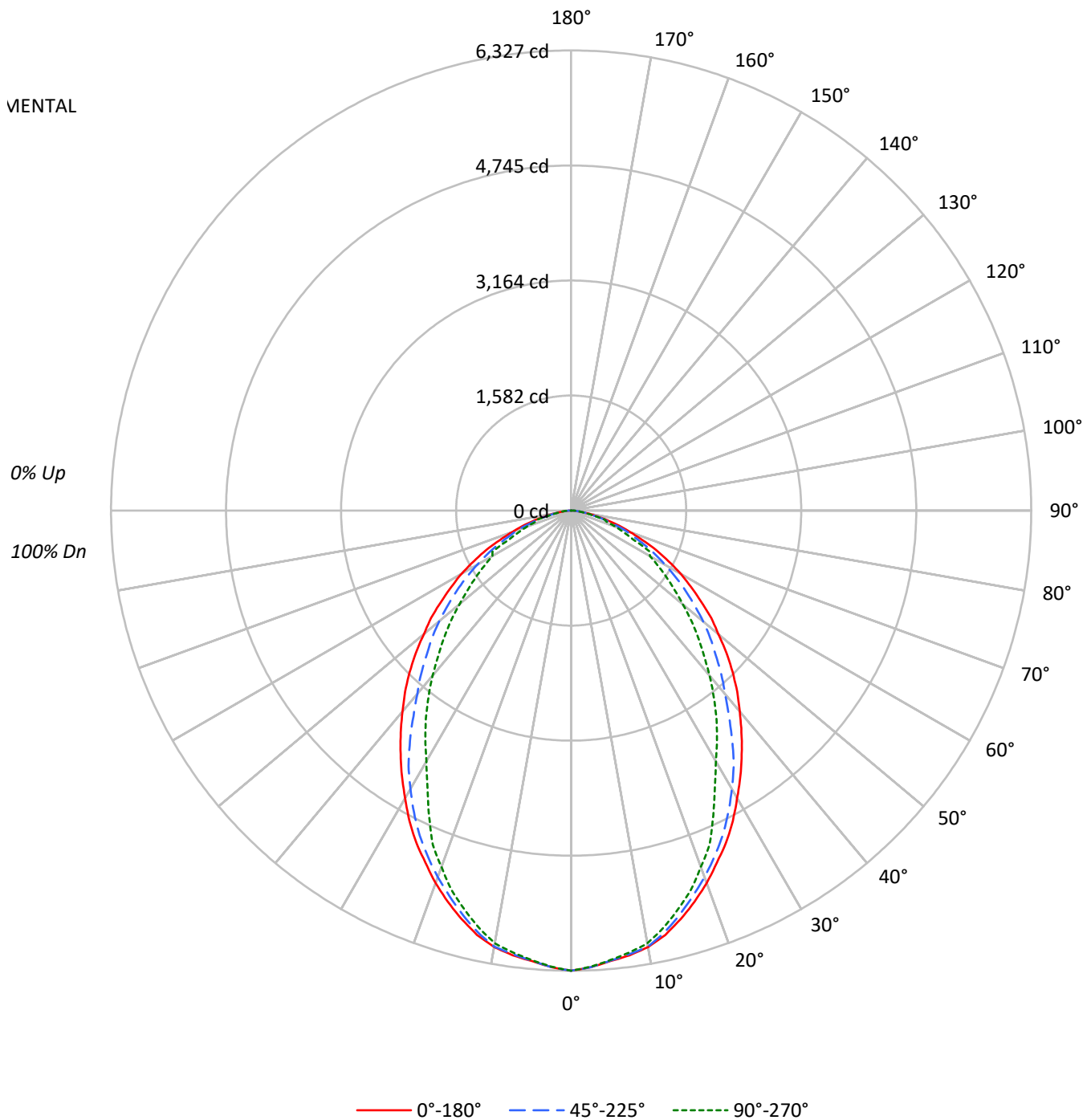
Input Watts (W): 133.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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																												
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°	8513	8513	8513
5°	8397	8388	8378
10°	8325	8315	8255
15°	8100	8019	7907
20°	7803	7677	7467
25°	7482	7319	6863
30°	7091	6864	6182
35°	6716	6344	5719
40°	6334	5781	5203
45°	5971	5345	4704
50°	5527	4961	4195
55°	5113	4495	3758
60°	4685	4015	3366
65°	4122	3516	2981
70°	3395	3079	2532
75°	2700	2358	2471
80°	1814	1700	1587
85°	1129	1355	1581

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5971 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	589.0	4.7
10°-20°	1616.4	13.0
20°-30°	2237.8	18.0
30°-40°	2386.1	19.2
40°-50°	2176.8	17.5
50°-60°	1705.4	13.7
60°-70°	1111.5	8.9
70°-80°	492.4	4.0
80°-90°	105.7	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°	4443.1	35.8
0°-40°	6829.2	55.0
0°-60°	10711.4	86.2
0°-90°	12421.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12421.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6327	6327	6327	6327	6327	
5°	6217	6210	6210	6203	6203	590
15°	5815	5815	5757	5698	5676	1635
25°	5040	5010	4930	4754	4623	2314
35°	4089	4060	3862	3570	3482	2556
45°	3138	3072	2809	2575	2472	2417
55°	2180	2114	1916	1690	1602	1955
65°	1295	1222	1104	1126	936	1276
75°	519	483	454	432	475	557
85°	73	80	88	95	102	101
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6327.1	6327.1	6327.1	6327.1	6327.1
2.5°	6283.2	6283.2	6283.2	6275.9	6275.9
5°	6217.4	6210.1	6210.1	6202.7	6202.7
7.5°	6166.2	6158.9	6151.5	6144.2	6129.6
10°	6093.0	6093.0	6085.7	6049.1	6041.8
12.5°	5976.0	5968.7	5939.4	5888.2	5873.6
15°	5815.1	5815.1	5756.6	5698.0	5676.1
17.5°	5639.5	5632.2	5559.1	5500.5	5471.3
20°	5449.3	5434.7	5361.6	5266.5	5215.3
22.5°	5237.2	5237.2	5149.4	5025.1	4973.9
25°	5039.7	5010.5	4930.0	4754.5	4622.8
27.5°	4813.0	4769.1	4681.3	4432.6	4279.0
30°	4564.3	4542.3	4418.0	4096.2	3979.1
32.5°	4330.2	4293.6	4162.0	3825.5	3730.4
35°	4088.8	4059.6	3862.1	3569.5	3481.7
37.5°	3847.5	3810.9	3562.2	3328.1	3218.4
40°	3606.1	3562.2	3291.6	3079.4	2962.4
42.5°	3379.3	3320.8	3057.5	2830.7	2699.1
45°	3137.9	3072.1	2808.8	2574.7	2472.3
47.5°	2896.6	2838.0	2596.7	2355.3	2238.3
50°	2640.6	2589.4	2369.9	2128.5	2004.2
52.5°	2428.4	2348.0	2135.9	1894.5	1792.1
55°	2179.7	2113.9	1916.4	1689.7	1601.9
57.5°	1953.0	1887.2	1704.3	1492.2	1419.0
60°	1740.9	1645.8	1492.2	1309.3	1250.8
62.5°	1506.8	1433.7	1302.0	1148.4	1221.5
65°	1294.7	1221.5	1104.5	1126.4	936.3
67.5°	1060.6	1024.0	921.6	819.2	790.0
70°	863.1	819.2	782.7	672.9	643.7
72.5°	687.6	643.7	592.5	534.0	512.0
75°	519.3	482.8	453.5	431.6	475.4
77.5°	358.4	343.8	321.8	299.9	292.6
80°	234.1	226.8	219.4	212.1	204.8
82.5°	139.0	139.0	139.0	139.0	139.0
85°	73.1	80.5	87.8	95.1	102.4
87.5°	43.9	43.9	51.2	58.5	65.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)