

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: P564009

Luminaire Tested: FSR-24-4-LD4-4LO-50-UNV-93-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P564009
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-LD4-4LO-50-UNV-93-88-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10129.0 lumens
Efficiency: N/A
Efficacy: 108.2 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

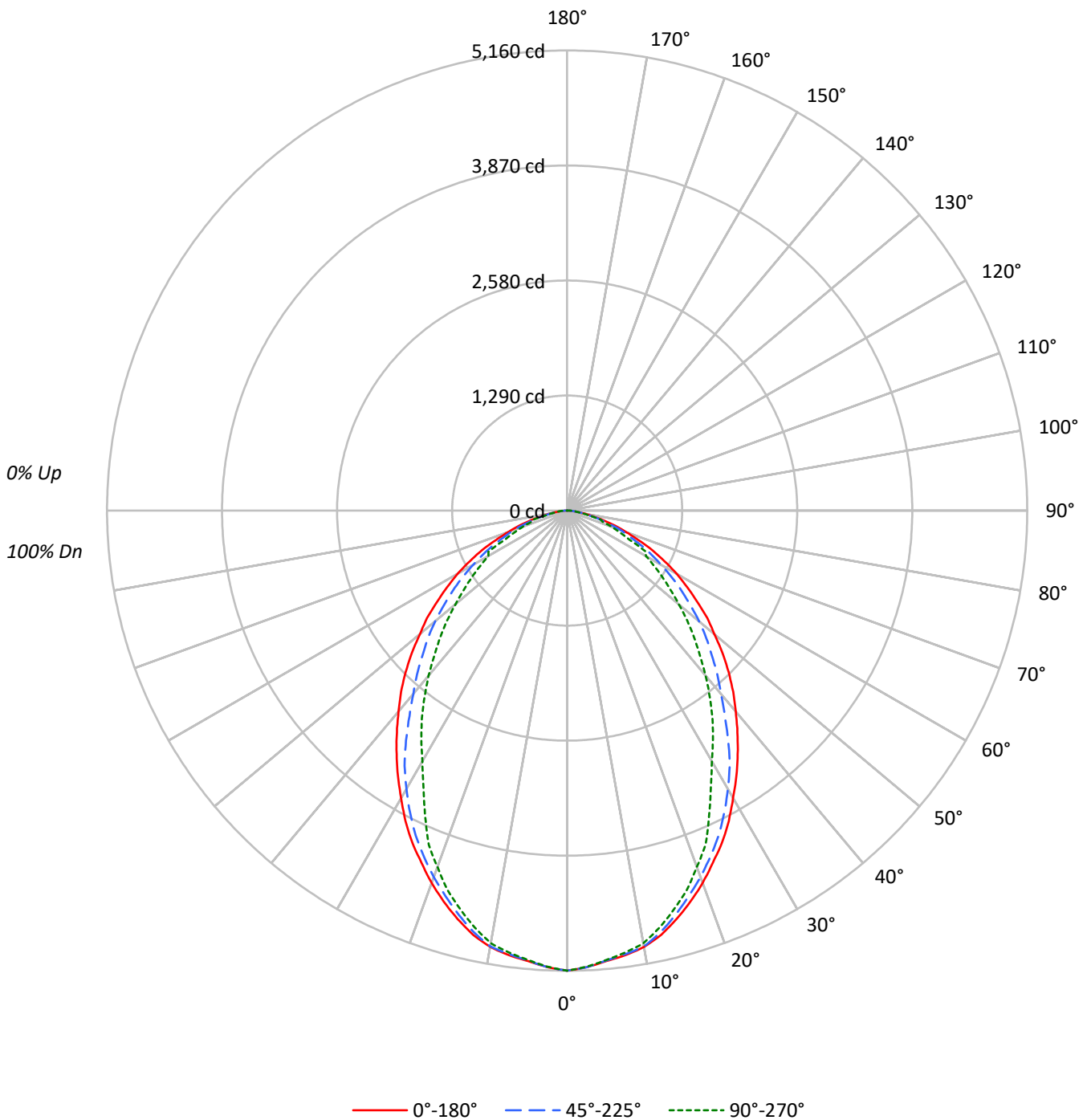
Input Watts (W): 93.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6942	6942	6942
5°	6848	6840	6832
10°	6788	6780	6731
15°	6605	6539	6448
20°	6363	6260	6089
25°	6101	5968	5597
30°	5783	5597	5041
35°	5477	5173	4664
40°	5165	4715	4243
45°	4869	4358	3836
50°	4507	4045	3421
55°	4170	3666	3064
60°	3820	3274	2745
65°	3361	2868	2431
70°	2769	2511	2065
75°	2202	1922	2015
80°	1479	1386	1294
85°	920	1105	1289

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4869 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	480.3	4.7
10°-20°	1318.1	13.0
20°-30°	1824.8	18.0
30°-40°	1945.8	19.2
40°-50°	1775.1	17.5
50°-60°	1390.7	13.7
60°-70°	906.4	8.9
70°-80°	401.6	4.0
80°-90°	86.2	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°	3623.2	35.8
0°-40°	5569.0	55.0
0°-60°	8734.8	86.2
0°-90°	10129.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10129.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5160	5160	5160	5160	5160	
5°	5070	5064	5064	5058	5058	481
15°	4742	4742	4694	4647	4629	1333
25°	4110	4086	4020	3877	3770	1887
35°	3334	3310	3149	2911	2839	2085
45°	2559	2505	2290	2100	2016	1971
55°	1778	1724	1563	1378	1306	1594
65°	1056	996	901	919	764	1040
75°	424	394	370	352	388	454
85°	60	66	72	78	84	83
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5159.6	5159.6	5159.6	5159.6	5159.6
2.5°	5123.8	5123.8	5123.8	5117.8	5117.8
5°	5070.1	5064.1	5064.1	5058.2	5058.2
7.5°	5028.4	5022.4	5016.4	5010.5	4998.5
10°	4968.7	4968.7	4962.7	4932.9	4926.9
12.5°	4873.3	4867.3	4843.4	4801.7	4789.8
15°	4742.0	4742.0	4694.3	4646.6	4628.7
17.5°	4598.9	4592.9	4533.3	4485.6	4461.7
20°	4443.8	4431.9	4372.2	4294.7	4252.9
22.5°	4270.8	4270.8	4199.2	4097.8	4056.1
25°	4109.8	4085.9	4020.3	3877.1	3769.8
27.5°	3924.9	3889.1	3817.5	3614.7	3489.4
30°	3722.1	3704.2	3602.8	3340.3	3244.9
32.5°	3531.2	3501.4	3394.0	3119.6	3042.1
35°	3334.3	3310.5	3149.4	2910.8	2839.3
37.5°	3137.5	3107.7	2904.9	2714.0	2624.5
40°	2940.7	2904.9	2684.2	2511.2	2415.8
42.5°	2755.8	2708.0	2493.3	2308.4	2201.0
45°	2558.9	2505.2	2290.5	2099.6	2016.1
47.5°	2362.1	2314.4	2117.5	1920.7	1825.2
50°	2153.3	2111.5	1932.6	1735.8	1634.4
52.5°	1980.3	1914.7	1741.7	1544.9	1461.4
55°	1777.5	1723.8	1562.8	1377.9	1306.3
57.5°	1592.6	1538.9	1389.8	1216.8	1157.2
60°	1419.6	1342.1	1216.8	1067.7	1020.0
62.5°	1228.8	1169.1	1061.7	936.5	996.1
65°	1055.8	996.1	900.7	918.6	763.5
67.5°	864.9	835.1	751.6	668.1	644.2
70°	703.8	668.1	638.2	548.8	524.9
72.5°	560.7	524.9	483.2	435.4	417.5
75°	423.5	393.7	369.8	351.9	387.7
77.5°	292.3	280.3	262.5	244.6	238.6
80°	190.9	184.9	178.9	173.0	167.0
82.5°	113.3	113.3	113.3	113.3	113.3
85°	59.6	65.6	71.6	77.5	83.5
87.5°	35.8	35.8	41.8	47.7	53.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)