

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: P563170

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-93-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563170
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-LD4-3HI-40-UNV-93-85-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11968.0 lumens
Efficiency: N/A
Efficacy: 92.3 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

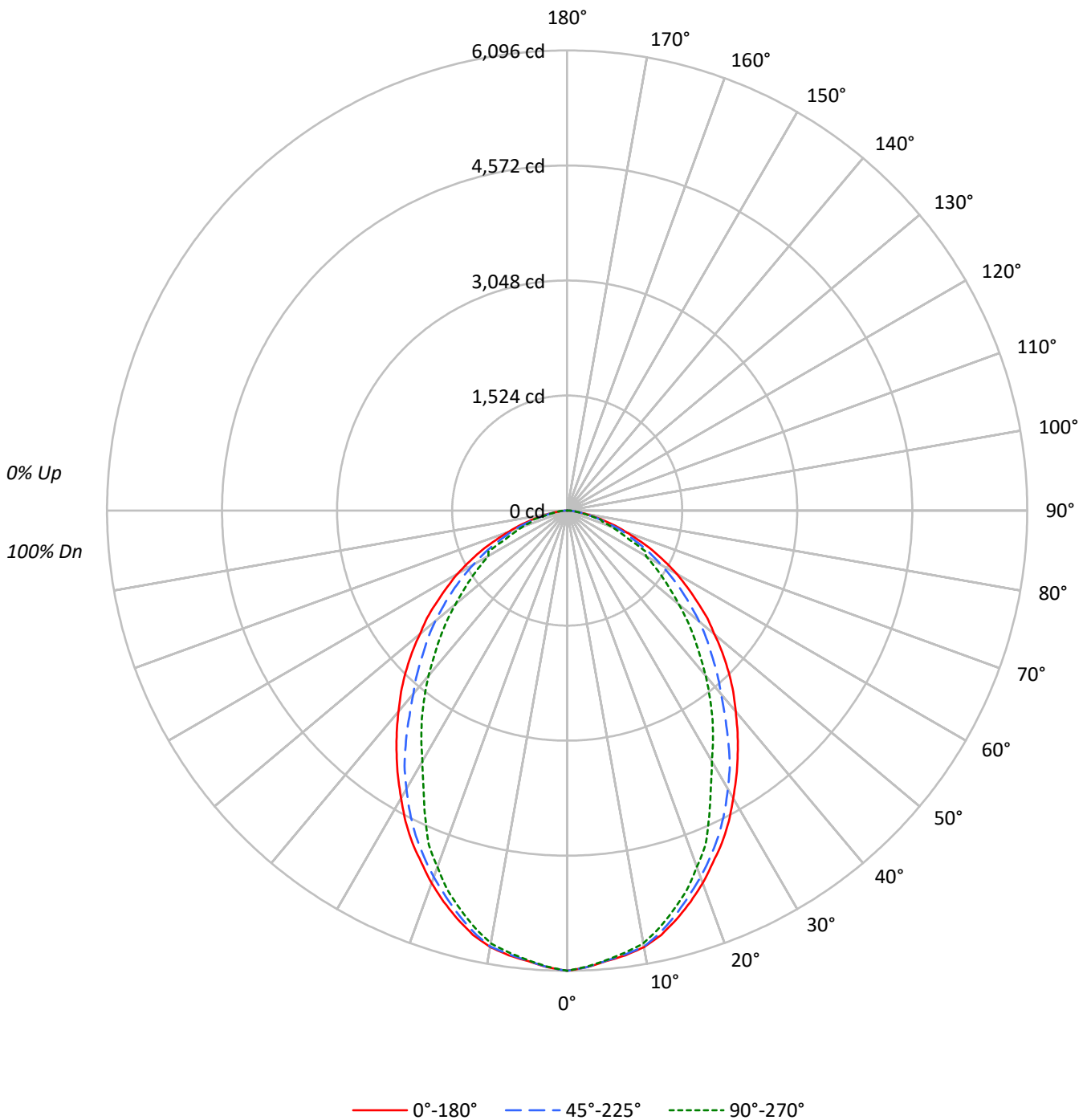
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	8203	8203	8203
5°	8091	8082	8072
10°	8021	8011	7954
15°	7805	7726	7618
20°	7518	7397	7195
25°	7209	7052	6613
30°	6833	6614	5957
35°	6471	6112	5510
40°	6103	5570	5014
45°	5753	5150	4533
50°	5326	4780	4042
55°	4927	4331	3621
60°	4514	3869	3243
65°	3972	3388	2872
70°	3271	2967	2440
75°	2601	2272	2381
80°	1747	1638	1529
85°	1088	1306	1524

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5753 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	567.5	4.7
10°-20°	1557.4	13.0
20°-30°	2156.1	18.0
30°-40°	2299.1	19.2
40°-50°	2097.4	17.5
50°-60°	1643.2	13.7
60°-70°	1070.9	8.9
70°-80°	474.5	4.0
80°-90°	101.9	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°	4281.0	35.8
0°-40°	6580.1	55.0
0°-60°	10320.7	86.2
0°-90°	11968.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11968.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6096	6096	6096	6096	6096	
5°	5991	5984	5984	5976	5976	569
15°	5603	5603	5547	5490	5469	1575
25°	4856	4828	4750	4581	4454	2229
35°	3940	3912	3721	3439	3355	2463
45°	3024	2960	2706	2481	2382	2329
55°	2100	2037	1846	1628	1544	1884
65°	1248	1177	1064	1085	902	1229
75°	500	465	437	416	458	536
85°	70	78	85	92	99	98
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6096.3	6096.3	6096.3	6096.3	6096.3
2.5°	6054.1	6054.1	6054.1	6047.0	6047.0
5°	5990.6	5983.6	5983.6	5976.5	5976.5
7.5°	5941.3	5934.2	5927.2	5920.1	5906.0
10°	5870.8	5870.8	5863.8	5828.5	5821.5
12.5°	5758.0	5751.0	5722.8	5673.5	5659.4
15°	5603.0	5603.0	5546.6	5490.2	5469.1
17.5°	5433.8	5426.8	5356.3	5299.9	5271.7
20°	5250.6	5236.5	5166.0	5074.4	5025.1
22.5°	5046.2	5046.2	4961.6	4841.8	4792.5
25°	4855.9	4827.7	4750.2	4581.1	4454.2
27.5°	4637.4	4595.2	4510.6	4271.0	4123.0
30°	4397.8	4376.7	4256.9	3946.8	3834.0
32.5°	4172.3	4137.1	4010.2	3686.0	3594.4
35°	3939.7	3911.5	3721.2	3439.3	3354.7
37.5°	3707.1	3671.9	3432.3	3206.7	3101.0
40°	3474.6	3432.3	3171.5	2967.1	2854.4
42.5°	3256.1	3199.7	2946.0	2727.5	2600.6
45°	3023.5	2960.1	2706.4	2480.8	2382.2
47.5°	2790.9	2734.5	2502.0	2269.4	2156.6
50°	2544.3	2494.9	2283.5	2050.9	1931.1
52.5°	2339.9	2262.3	2058.0	1825.4	1726.7
55°	2100.2	2036.8	1846.5	1628.0	1543.5
57.5°	1881.8	1818.3	1642.1	1437.7	1367.3
60°	1677.4	1585.8	1437.7	1261.6	1205.2
62.5°	1451.8	1381.4	1254.5	1106.5	1177.0
65°	1247.5	1177.0	1064.2	1085.4	902.1
67.5°	1021.9	986.7	888.0	789.4	761.2
70°	831.6	789.4	754.1	648.4	620.2
72.5°	662.5	620.2	570.9	514.5	493.3
75°	500.4	465.2	437.0	415.8	458.1
77.5°	345.3	331.2	310.1	289.0	281.9
80°	225.5	218.5	211.4	204.4	197.3
82.5°	133.9	133.9	133.9	133.9	133.9
85°	70.5	77.5	84.6	91.6	98.7
87.5°	42.3	42.3	49.3	56.4	63.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)