

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: P563548

Luminaire Tested: FSR-24-4-LD4-3STD-40-UNV-82-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563548
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-LD4-3STD-40-UNV-82-96-EDD-90
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9159.0 lumens
Efficiency: N/A
Efficacy: 91.7 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

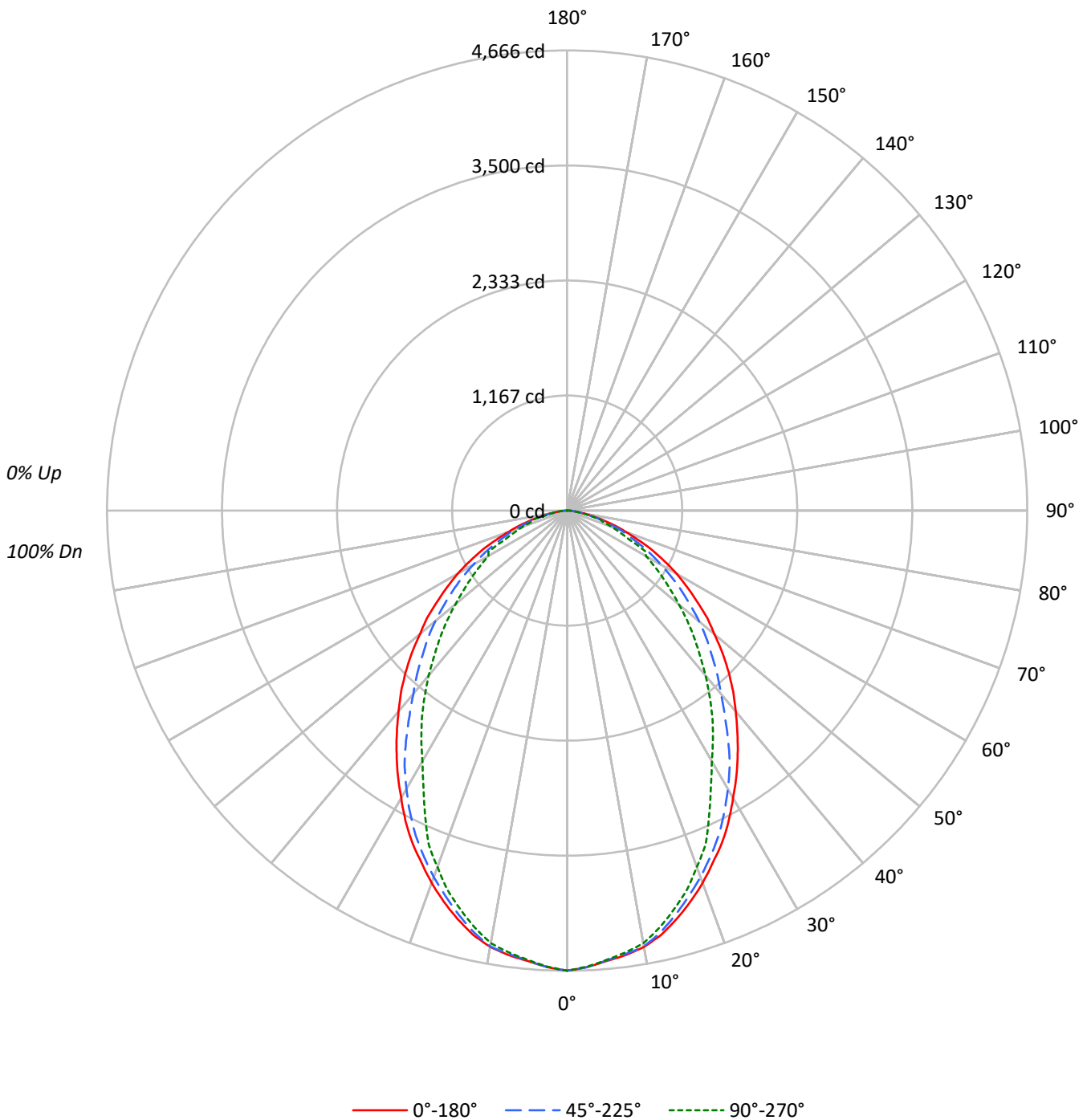
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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				
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°	6277	6277	6277
5°	6192	6185	6178
10°	6138	6131	6087
15°	5973	5913	5830
20°	5753	5661	5506
25°	5517	5397	5061
30°	5229	5061	4559
35°	4952	4678	4217
40°	4670	4263	3837
45°	4403	3941	3469
50°	4076	3658	3093
55°	3770	3315	2771
60°	3454	2961	2482
65°	3039	2593	2198
70°	2504	2270	1867
75°	1991	1738	1823
80°	1337	1254	1170
85°	832	999	1166

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4403 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	434.3	4.7
10°-20°	1191.9	13.0
20°-30°	1650.1	18.0
30°-40°	1759.5	19.2
40°-50°	1605.1	17.5
50°-60°	1257.5	13.7
60°-70°	819.6	8.9
70°-80°	363.1	4.0
80°-90°	78.0	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°	3276.2	35.8
0°-40°	5035.7	55.0
0°-60°	7898.3	86.2
0°-90°	9159.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9159.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4666	4666	4666	4666	4666	
5°	4585	4579	4579	4574	4574	435
15°	4288	4288	4245	4202	4185	1205
25°	3716	3695	3635	3506	3409	1706
35°	3015	2994	2848	2632	2567	1885
45°	2314	2265	2071	1899	1823	1782
55°	1607	1559	1413	1246	1181	1442
65°	955	901	814	831	690	941
75°	383	356	334	318	351	410
85°	54	59	65	70	76	75
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4665.5	4665.5	4665.5	4665.5	4665.5
2.5°	4633.1	4633.1	4633.1	4627.7	4627.7
5°	4584.6	4579.2	4579.2	4573.8	4573.8
7.5°	4546.8	4541.4	4536.0	4530.6	4519.8
10°	4492.9	4492.9	4487.5	4460.5	4455.1
12.5°	4406.6	4401.2	4379.6	4341.9	4331.1
15°	4287.9	4287.9	4244.8	4201.6	4185.4
17.5°	4158.5	4153.1	4099.1	4056.0	4034.4
20°	4018.2	4007.5	3953.5	3883.4	3845.6
22.5°	3861.8	3861.8	3797.1	3705.4	3667.7
25°	3716.2	3694.6	3635.3	3505.8	3408.8
27.5°	3549.0	3516.6	3451.9	3268.5	3155.3
30°	3365.6	3349.4	3257.7	3020.4	2934.1
32.5°	3193.0	3166.0	3069.0	2820.9	2750.7
35°	3015.0	2993.5	2847.8	2632.1	2567.4
37.5°	2837.0	2810.1	2626.7	2454.1	2373.2
40°	2659.0	2626.7	2427.1	2270.7	2184.4
42.5°	2491.8	2448.7	2254.5	2087.3	1990.2
45°	2313.9	2265.3	2071.1	1898.6	1823.0
47.5°	2135.9	2092.7	1914.7	1736.7	1650.4
50°	1947.1	1909.3	1747.5	1569.5	1477.8
52.5°	1790.7	1731.3	1574.9	1396.9	1321.4
55°	1607.3	1558.8	1413.1	1245.9	1181.2
57.5°	1440.1	1391.6	1256.7	1100.3	1046.4
60°	1283.7	1213.6	1100.3	965.5	922.3
62.5°	1111.1	1057.1	960.1	846.8	900.7
65°	954.7	900.7	814.4	830.6	690.4
67.5°	782.1	755.1	679.6	604.1	582.5
70°	636.4	604.1	577.1	496.2	474.6
72.5°	507.0	474.6	436.9	393.7	377.6
75°	382.9	356.0	334.4	318.2	350.6
77.5°	264.3	253.5	237.3	221.1	215.7
80°	172.6	167.2	161.8	156.4	151.0
82.5°	102.5	102.5	102.5	102.5	102.5
85°	53.9	59.3	64.7	70.1	75.5
87.5°	32.4	32.4	37.8	43.1	48.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)