

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: P563530

Luminaire Tested: FSR-24-4-LD4-3STD-40-UNV-81-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563530
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-81-94-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 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: 9460.0 lumens
Efficiency: N/A
Efficacy: 94.7 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

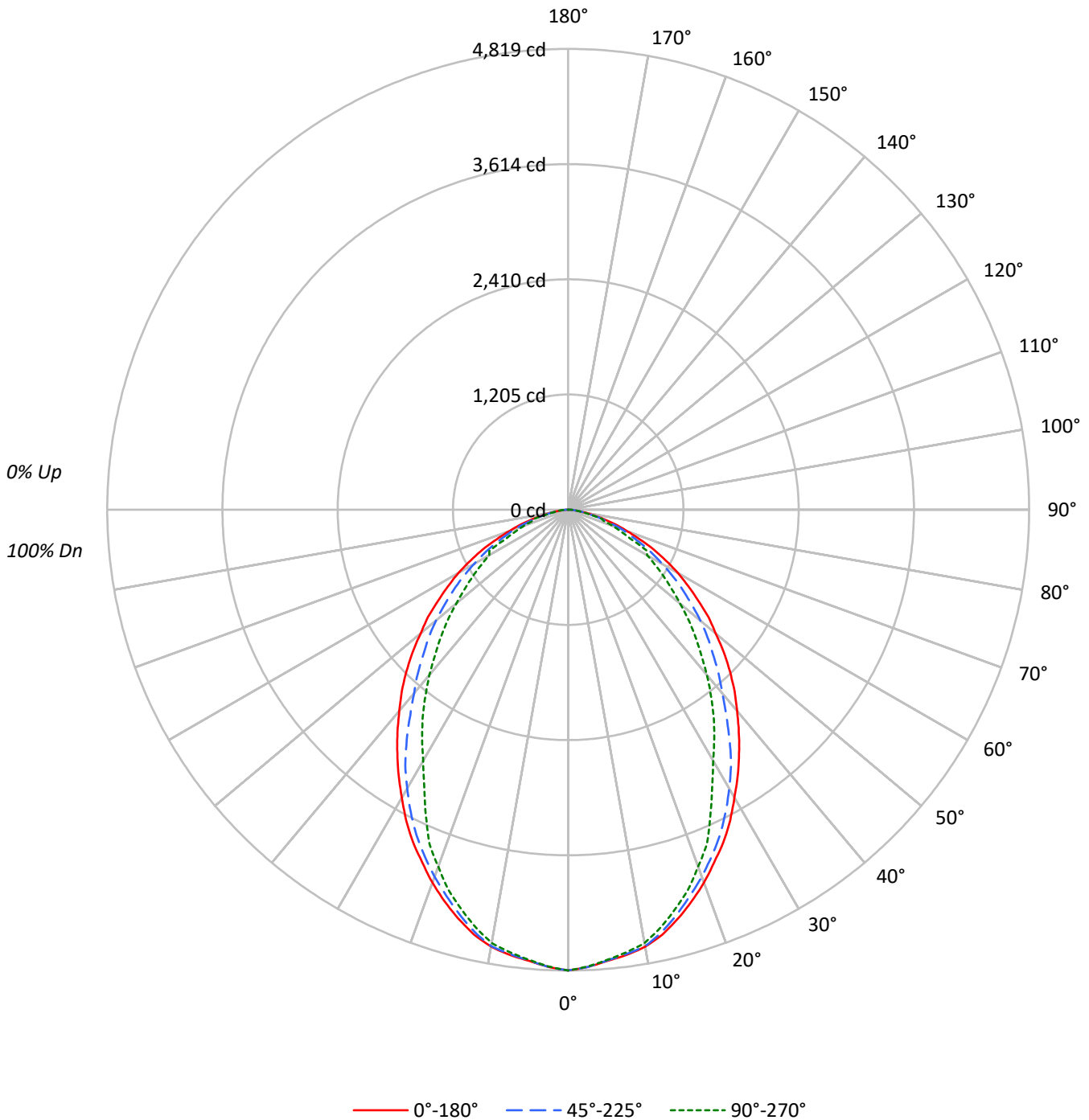
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					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°	6484	6484	6484
5°	6395	6388	6381
10°	6340	6333	6287
15°	6169	6107	6022
20°	5943	5847	5687
25°	5698	5574	5227
30°	5401	5228	4708
35°	5115	4831	4356
40°	4824	4403	3963
45°	4548	4070	3583
50°	4210	3778	3195
55°	3894	3424	2862
60°	3568	3058	2563
65°	3139	2678	2270
70°	2586	2345	1928
75°	2056	1796	1882
80°	1382	1295	1209
85°	860	1033	1204

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4548 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	448.6	4.7
10°-20°	1231.0	13.0
20°-30°	1704.3	18.0
30°-40°	1817.3	19.2
40°-50°	1657.9	17.5
50°-60°	1298.8	13.7
60°-70°	846.5	8.9
70°-80°	375.0	4.0
80°-90°	80.5	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°	3383.9	35.8
0°-40°	5201.2	55.0
0°-60°	8157.9	86.2
0°-90°	9460.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9460.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4819	4819	4819	4819	4819	
5°	4735	4730	4730	4724	4724	449
15°	4429	4429	4384	4340	4323	1245
25°	3838	3816	3755	3621	3521	1762
35°	3114	3092	2941	2719	2652	1947
45°	2390	2340	2139	1961	1883	1841
55°	1660	1610	1460	1287	1220	1489
65°	986	930	841	858	713	972
75°	396	368	345	329	362	424
85°	56	61	67	72	78	77
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4818.8	4818.8	4818.8	4818.8	4818.8
2.5°	4785.4	4785.4	4785.4	4779.8	4779.8
5°	4735.2	4729.7	4729.7	4724.1	4724.1
7.5°	4696.2	4690.7	4685.1	4679.5	4668.4
10°	4640.5	4640.5	4635.0	4607.1	4601.5
12.5°	4551.4	4545.8	4523.5	4484.5	4473.4
15°	4428.8	4428.8	4384.3	4339.7	4323.0
17.5°	4295.1	4289.6	4233.9	4189.3	4167.0
20°	4150.3	4139.2	4083.4	4011.0	3972.0
22.5°	3988.7	3988.7	3921.9	3827.2	3788.2
25°	3838.3	3816.0	3754.8	3621.1	3520.8
27.5°	3665.6	3632.2	3565.4	3375.9	3259.0
30°	3476.2	3459.5	3364.8	3119.7	3030.6
32.5°	3298.0	3270.1	3169.8	2913.6	2841.1
35°	3114.1	3091.8	2941.4	2718.6	2651.7
37.5°	2930.3	2902.4	2713.0	2534.7	2451.2
40°	2746.4	2713.0	2506.9	2345.3	2256.2
42.5°	2573.7	2529.2	2328.6	2155.9	2055.6
45°	2389.9	2339.8	2139.2	1960.9	1883.0
47.5°	2206.1	2161.5	1977.7	1793.8	1704.7
50°	2011.1	1972.1	1805.0	1621.1	1526.4
52.5°	1849.5	1788.2	1626.7	1442.9	1364.9
55°	1660.1	1610.0	1459.6	1286.9	1220.0
57.5°	1487.4	1437.3	1298.0	1136.5	1080.7
60°	1325.9	1253.4	1136.5	997.2	952.6
62.5°	1147.6	1091.9	991.6	874.6	930.3
65°	986.0	930.3	841.2	857.9	713.1
67.5°	807.8	779.9	701.9	623.9	601.7
70°	657.4	623.9	596.1	512.5	490.2
72.5°	523.7	490.2	451.2	406.7	390.0
75°	395.5	367.7	345.4	328.7	362.1
77.5°	273.0	261.8	245.1	228.4	222.8
80°	178.3	172.7	167.1	161.6	156.0
82.5°	105.8	105.8	105.8	105.8	105.8
85°	55.7	61.3	66.9	72.4	78.0
87.5°	33.4	33.4	39.0	44.6	50.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)