

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: P563716

Luminaire Tested: FSR-24-4-LD4-4HI-40-UNV-81-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563716
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-LD4-4HI-40-UNV-81-86-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14958.0 lumens
Efficiency: N/A
Efficacy: 86.6 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

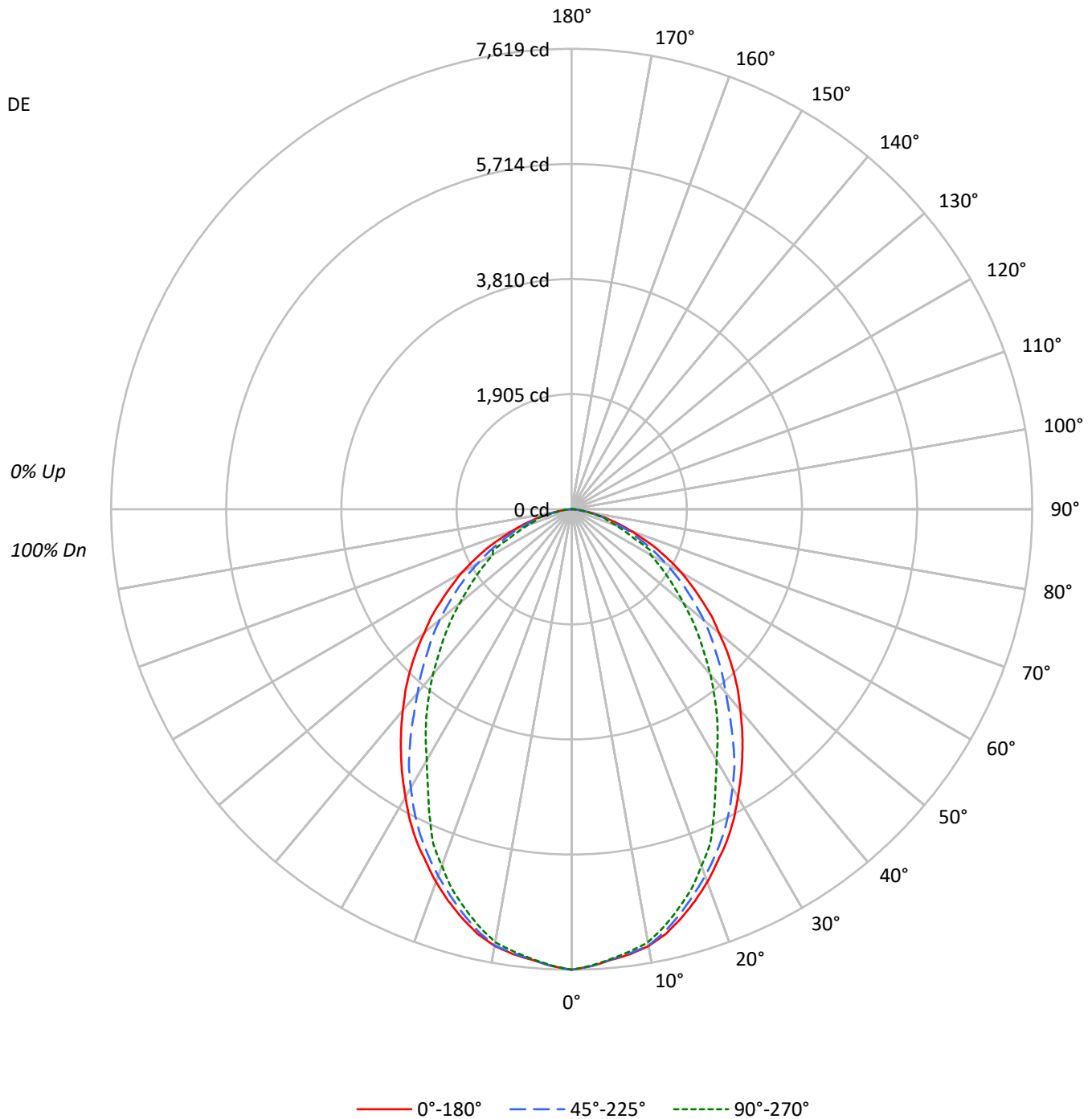
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	10252	10252	10252
5°	10113	10101	10089
10°	10025	10013	9941
15°	9755	9656	9521
20°	9396	9245	8993
25°	9010	8814	8265
30°	8540	8266	7445
35°	8088	7639	6887
40°	7627	6962	6266
45°	7191	6436	5665
50°	6656	5974	5052
55°	6158	5414	4525
60°	5641	4835	4053
65°	4964	4235	3590
70°	4089	3708	3050
75°	3251	2839	2977
80°	2184	2048	1911
85°	1360	1632	1903

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7191 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	709.3	4.7
10°-20°	1946.5	13.0
20°-30°	2694.8	18.0
30°-40°	2873.5	19.2
40°-50°	2621.4	17.5
50°-60°	2053.7	13.7
60°-70°	1338.5	8.9
70°-80°	593.0	4.0
80°-90°	127.3	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°	5350.6	35.8
0°-40°	8224.1	55.0
0°-60°	12899.2	86.2
0°-90°	14958.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14958.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7619	7619	7619	7619	7619	
5°	7487	7478	7478	7470	7470	711
15°	7003	7003	6932	6862	6835	1969
25°	6069	6034	5937	5726	5567	2786
35°	4924	4889	4651	4299	4193	3078
45°	3779	3700	3382	3101	2977	2911
55°	2625	2546	2308	2035	1929	2354
65°	1559	1471	1330	1356	1128	1536
75°	625	581	546	520	573	670
85°	88	97	106	114	123	122
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7619.4	7619.4	7619.4	7619.4	7619.4
2.5°	7566.6	7566.6	7566.6	7557.7	7557.7
5°	7487.3	7478.5	7478.5	7469.7	7469.7
7.5°	7425.6	7416.8	7408.0	7399.2	7381.6
10°	7337.5	7337.5	7328.7	7284.7	7275.9
12.5°	7196.6	7187.8	7152.6	7090.9	7073.3
15°	7002.8	7002.8	6932.3	6861.9	6835.4
17.5°	6791.4	6782.6	6694.5	6624.0	6588.8
20°	6562.4	6544.8	6456.7	6342.2	6280.5
22.5°	6306.9	6306.9	6201.2	6051.5	5989.8
25°	6069.1	6033.9	5937.0	5725.6	5567.0
27.5°	5796.0	5743.2	5637.5	5338.0	5153.0
30°	5496.5	5470.1	5320.4	4932.8	4791.9
32.5°	5214.7	5170.6	5012.1	4606.9	4492.4
35°	4924.0	4888.8	4650.9	4298.6	4192.9
37.5°	4633.3	4589.3	4289.8	4007.9	3875.8
40°	4342.6	4289.8	3963.9	3708.4	3567.5
42.5°	4069.6	3999.1	3682.0	3408.9	3250.4
45°	3778.9	3699.6	3382.5	3100.6	2977.3
47.5°	3488.2	3417.7	3127.0	2836.4	2695.4
50°	3179.9	3118.2	2854.0	2563.3	2413.5
52.5°	2924.4	2827.5	2572.1	2281.4	2158.1
55°	2625.0	2545.7	2307.8	2034.8	1929.1
57.5°	2351.9	2272.6	2052.4	1796.9	1708.9
60°	2096.4	1981.9	1796.9	1576.7	1506.3
62.5°	1814.6	1726.5	1567.9	1382.9	1471.0
65°	1559.1	1471.0	1330.1	1356.5	1127.5
67.5°	1277.2	1233.2	1109.9	986.6	951.3
70°	1039.4	986.6	942.5	810.4	775.2
72.5°	828.0	775.2	713.5	643.0	616.6
75°	625.4	581.4	546.1	519.7	572.6
77.5°	431.6	414.0	387.6	361.2	352.3
80°	281.9	273.1	264.3	255.4	246.6
82.5°	167.4	167.4	167.4	167.4	167.4
85°	88.1	96.9	105.7	114.5	123.3
87.5°	52.9	52.9	61.7	70.5	79.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)