

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: P563788

Luminaire Tested: FSR-24-4-LD4-4HI-50-UNV-81-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563788
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-50-UNV-81-96-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16111.0 lumens
Efficiency: N/A
Efficacy: 93.2 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

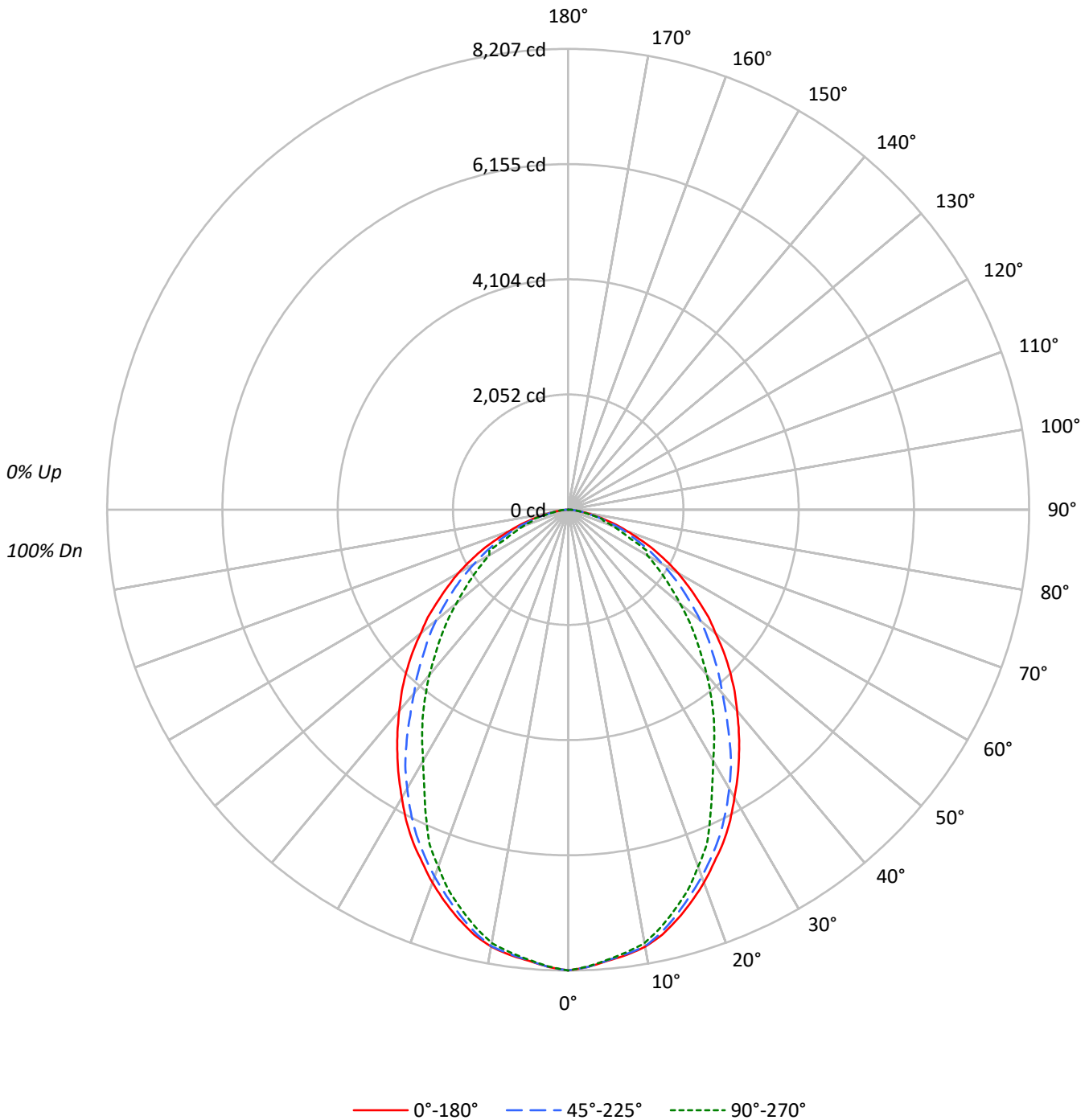
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	11042	11042	11042
5°	10892	10879	10866
10°	10798	10785	10707
15°	10506	10401	10255
20°	10121	9958	9686
25°	9705	9493	8902
30°	9198	8903	8019
35°	8711	8228	7418
40°	8215	7499	6749
45°	7745	6932	6102
50°	7169	6435	5442
55°	6632	5831	4874
60°	6076	5208	4366
65°	5346	4561	3866
70°	4404	3994	3284
75°	3502	3058	3206
80°	2352	2205	2059
85°	1465	1758	2050

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7745 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	763.9	4.7
10°-20°	2096.6	13.0
20°-30°	2902.5	18.0
30°-40°	3094.9	19.2
40°-50°	2823.5	17.5
50°-60°	2212.0	13.7
60°-70°	1441.7	8.9
70°-80°	638.7	4.0
80°-90°	137.1	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°	5763.0	35.8
0°-40°	8858.0	55.0
0°-60°	13893.5	86.2
0°-90°	16111.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16111.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8207	8207	8207	8207	8207	
5°	8064	8055	8055	8045	8045	766
15°	7543	7543	7467	7391	7362	2120
25°	6537	6499	6395	6167	5996	3001
35°	5304	5266	5009	4630	4516	3316
45°	4070	3985	3643	3340	3207	3135
55°	2827	2742	2486	2192	2078	2536
65°	1679	1584	1433	1461	1214	1655
75°	674	626	588	560	617	722
85°	95	104	114	123	133	132
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8206.7	8206.7	8206.7	8206.7	8206.7
2.5°	8149.8	8149.8	8149.8	8140.3	8140.3
5°	8064.4	8054.9	8054.9	8045.4	8045.4
7.5°	7998.0	7988.5	7979.0	7969.5	7950.6
10°	7903.1	7903.1	7893.6	7846.2	7836.7
12.5°	7751.3	7741.8	7703.9	7637.5	7618.5
15°	7542.6	7542.6	7466.7	7390.8	7362.3
17.5°	7314.9	7305.4	7210.5	7134.6	7096.7
20°	7068.2	7049.2	6954.4	6831.0	6764.6
22.5°	6793.1	6793.1	6679.2	6517.9	6451.5
25°	6536.9	6499.0	6394.6	6166.9	5996.1
27.5°	6242.8	6185.9	6072.0	5749.5	5550.2
30°	5920.2	5891.8	5730.5	5313.0	5161.2
32.5°	5616.6	5569.2	5398.4	4962.0	4838.6
35°	5303.5	5265.6	5009.4	4629.9	4516.1
37.5°	4990.4	4943.0	4620.4	4316.8	4174.5
40°	4677.4	4620.4	4269.4	3994.3	3842.5
42.5°	4383.2	4307.3	3965.8	3671.7	3500.9
45°	4070.2	3984.8	3643.2	3339.6	3206.8
47.5°	3757.1	3681.2	3368.1	3055.0	2903.2
50°	3425.0	3358.6	3074.0	2760.9	2599.6
52.5°	3149.9	3045.5	2770.4	2457.3	2324.4
55°	2827.3	2741.9	2485.7	2191.6	2077.8
57.5°	2533.2	2447.8	2210.6	1935.5	1840.6
60°	2258.0	2134.7	1935.5	1698.3	1622.4
62.5°	1954.4	1859.6	1688.8	1489.5	1584.4
65°	1679.3	1584.4	1432.6	1461.1	1214.4
67.5°	1375.7	1328.3	1195.4	1062.6	1024.7
70°	1119.5	1062.6	1015.2	872.9	834.9
72.5°	891.8	834.9	768.5	692.6	664.1
75°	673.6	626.2	588.2	559.8	616.7
77.5°	464.9	445.9	417.5	389.0	379.5
80°	303.6	294.1	284.6	275.1	265.7
82.5°	180.3	180.3	180.3	180.3	180.3
85°	94.9	104.4	113.9	123.3	132.8
87.5°	56.9	56.9	66.4	75.9	85.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)