

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: P561798

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-81-87-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561798
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-12-4-LD4-2STD-40-UNV-81-87-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5021.0 lumens
Efficiency: N/A
Efficacy: 75.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

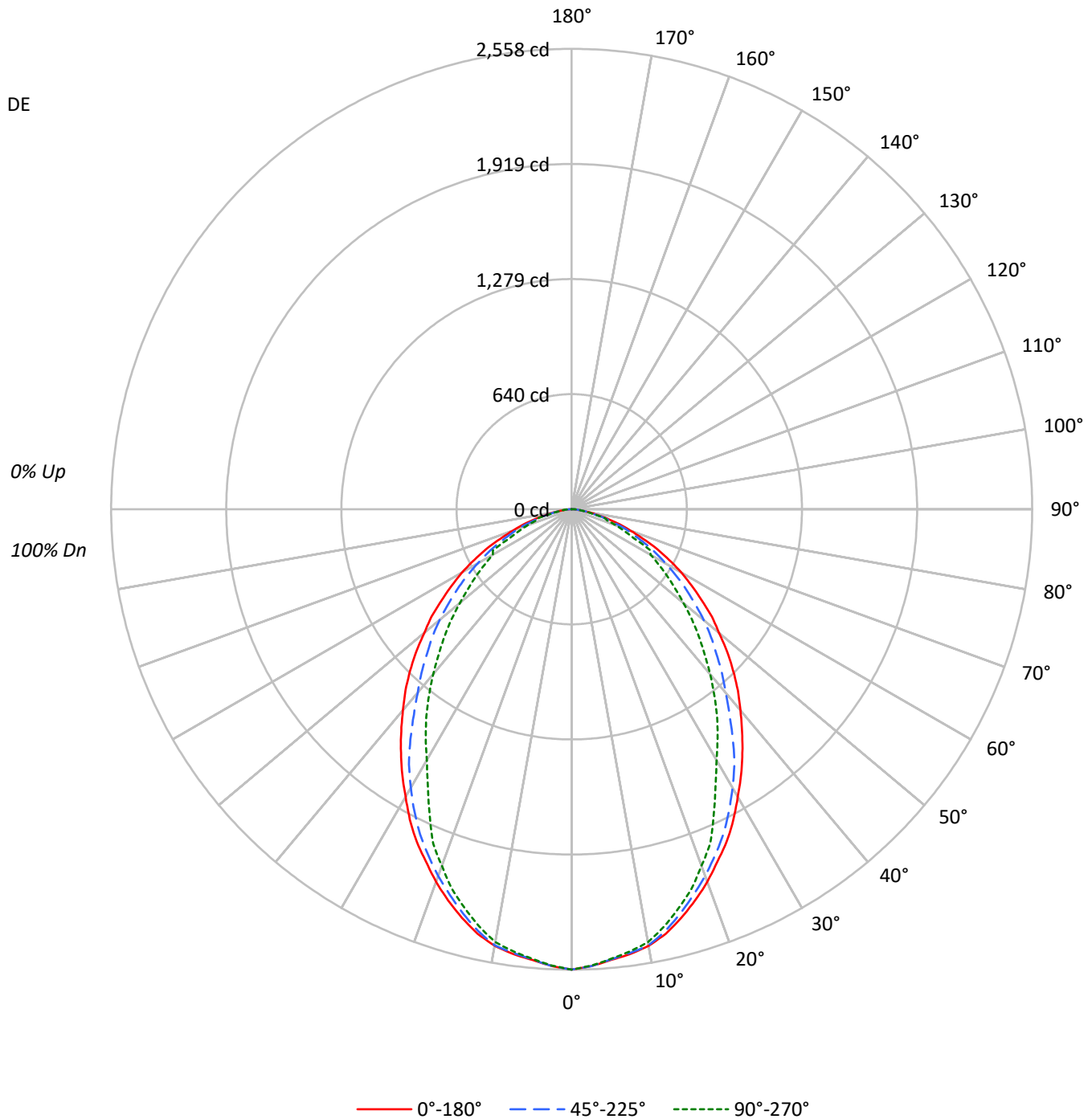
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6882	6882	6882
5°	6789	6781	6773
10°	6730	6722	6674
15°	6549	6483	6392
20°	6308	6206	6037
25°	6049	5917	5548
30°	5733	5549	4998
35°	5430	5129	4623
40°	5121	4674	4207
45°	4827	4321	3803
50°	4469	4011	3392
55°	4134	3635	3038
60°	3787	3246	2721
65°	3333	2843	2410
70°	2745	2489	2047
75°	2182	1906	1998
80°	1466	1375	1283
85°	914	1096	1278

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4827 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	238.1	4.7
10°-20°	653.4	13.0
20°-30°	904.6	18.0
30°-40°	964.5	19.2
40°-50°	880.0	17.5
50°-60°	689.4	13.7
60°-70°	449.3	8.9
70°-80°	199.1	4.0
80°-90°	42.7	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°	1796.1	35.8
0°-40°	2760.6	55.0
0°-60°	4329.9	86.2
0°-90°	5021.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5021.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2558	2558	2558	2558	2558	
5°	2513	2510	2510	2507	2507	239
15°	2351	2351	2327	2303	2294	661
25°	2037	2025	1993	1922	1869	935
35°	1653	1641	1561	1443	1407	1033
45°	1268	1242	1135	1041	999	977
55°	881	854	775	683	648	790
65°	523	494	446	455	378	516
75°	210	195	183	174	192	225
85°	30	32	36	38	41	41
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2557.6	2557.6	2557.6	2557.6	2557.6
2.5°	2539.9	2539.9	2539.9	2536.9	2536.9
5°	2513.3	2510.3	2510.3	2507.4	2507.4
7.5°	2492.6	2489.6	2486.7	2483.7	2477.8
10°	2463.0	2463.0	2460.1	2445.3	2442.3
12.5°	2415.7	2412.7	2400.9	2380.2	2374.3
15°	2350.7	2350.7	2327.0	2303.3	2294.5
17.5°	2279.7	2276.7	2247.2	2223.5	2211.7
20°	2202.8	2196.9	2167.3	2128.9	2108.2
22.5°	2117.1	2117.1	2081.6	2031.3	2010.6
25°	2037.2	2025.4	1992.9	1921.9	1868.7
27.5°	1945.6	1927.8	1892.4	1791.8	1729.7
30°	1845.0	1836.2	1785.9	1655.8	1608.5
32.5°	1750.4	1735.6	1682.4	1546.4	1508.0
35°	1652.9	1641.0	1561.2	1442.9	1407.4
37.5°	1555.3	1540.5	1440.0	1345.3	1301.0
40°	1457.7	1440.0	1330.6	1244.8	1197.5
42.5°	1366.0	1342.4	1235.9	1144.3	1091.1
45°	1268.5	1241.9	1135.4	1040.8	999.4
47.5°	1170.9	1147.2	1049.7	952.1	904.8
50°	1067.4	1046.7	958.0	860.4	810.2
52.5°	981.7	949.1	863.4	765.8	724.4
55°	881.1	854.5	774.7	683.0	647.5
57.5°	789.5	762.9	688.9	603.2	573.6
60°	703.7	665.3	603.2	529.3	505.6
62.5°	609.1	579.5	526.3	464.2	493.8
65°	523.4	493.8	446.5	455.3	378.5
67.5°	428.7	414.0	372.6	331.2	319.3
70°	348.9	331.2	316.4	272.0	260.2
72.5°	277.9	260.2	239.5	215.8	207.0
75°	209.9	195.1	183.3	174.5	192.2
77.5°	144.9	139.0	130.1	121.2	118.3
80°	94.6	91.7	88.7	85.7	82.8
82.5°	56.2	56.2	56.2	56.2	56.2
85°	29.6	32.5	35.5	38.4	41.4
87.5°	17.7	17.7	20.7	23.7	26.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)