

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: P561896

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561896
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-50-UNV-93-88-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5022.0 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

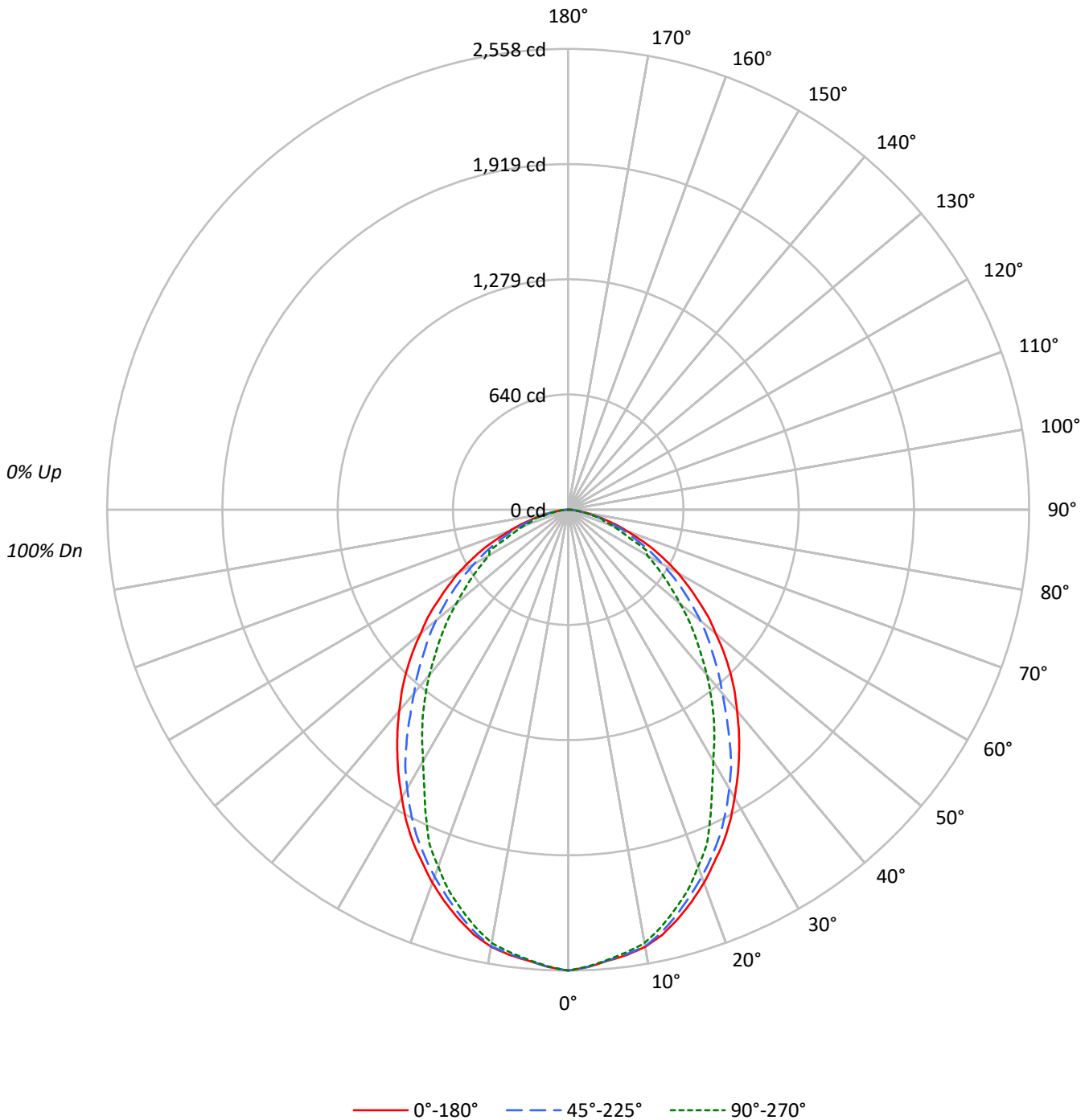
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	50	30	10	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	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°	6884	6884	6884
5°	6790	6782	6774
10°	6731	6723	6675
15°	6550	6484	6393
20°	6310	6208	6038
25°	6050	5918	5550
30°	5734	5551	4999
35°	5431	5130	4624
40°	5122	4675	4207
45°	4828	4322	3804
50°	4469	4011	3392
55°	4135	3635	3039
60°	3788	3247	2722
65°	3333	2844	2410
70°	2746	2489	2048
75°	2183	1907	1998
80°	1466	1375	1283
85°	914	1096	1278

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4828 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	238.1	4.7
10°-20°	653.5	13.0
20°-30°	904.8	18.0
30°-40°	964.7	19.2
40°-50°	880.1	17.5
50°-60°	689.5	13.7
60°-70°	449.4	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°	1796.4	35.8
0°-40°	2761.1	55.0
0°-60°	4330.8	86.2
0°-90°	5022.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5022.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2558	2558	2558	2558	2558	
5°	2514	2511	2511	2508	2508	239
15°	2351	2351	2328	2304	2295	661
25°	2038	2026	1993	1922	1869	935
35°	1653	1641	1562	1443	1408	1034
45°	1269	1242	1136	1041	1000	977
55°	881	855	775	683	648	790
65°	524	494	447	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°	2558.1	2558.1	2558.1	2558.1	2558.1
2.5°	2540.4	2540.4	2540.4	2537.4	2537.4
5°	2513.8	2510.8	2510.8	2507.9	2507.9
7.5°	2493.1	2490.1	2487.2	2484.2	2478.3
10°	2463.5	2463.5	2460.5	2445.8	2442.8
12.5°	2416.2	2413.2	2401.4	2380.7	2374.8
15°	2351.1	2351.1	2327.5	2303.8	2294.9
17.5°	2280.1	2277.2	2247.6	2224.0	2212.1
20°	2203.3	2197.3	2167.8	2129.3	2108.6
22.5°	2117.5	2117.5	2082.0	2031.7	2011.0
25°	2037.6	2025.8	1993.3	1922.3	1869.1
27.5°	1946.0	1928.2	1892.7	1792.2	1730.1
30°	1845.4	1836.5	1786.3	1656.1	1608.8
32.5°	1750.8	1736.0	1682.8	1546.7	1508.3
35°	1653.2	1641.3	1561.5	1443.2	1407.7
37.5°	1555.6	1540.8	1440.2	1345.6	1301.3
40°	1458.0	1440.2	1330.8	1245.1	1197.7
42.5°	1366.3	1342.7	1236.2	1144.5	1091.3
45°	1268.7	1242.1	1135.6	1041.0	999.6
47.5°	1171.1	1147.5	1049.9	952.3	905.0
50°	1067.6	1046.9	958.2	860.6	810.3
52.5°	981.9	949.3	863.6	766.0	724.6
55°	881.3	854.7	774.8	683.2	647.7
57.5°	789.6	763.0	689.1	603.3	573.7
60°	703.9	665.4	603.3	529.4	505.7
62.5°	609.2	579.6	526.4	464.3	493.9
65°	523.5	493.9	446.6	455.4	378.5
67.5°	428.8	414.0	372.6	331.2	319.4
70°	349.0	331.2	316.4	272.1	260.3
72.5°	278.0	260.3	239.5	215.9	207.0
75°	210.0	195.2	183.4	174.5	192.2
77.5°	144.9	139.0	130.1	121.3	118.3
80°	94.6	91.7	88.7	85.8	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)