

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: P563402

Luminaire Tested: FSR-24-4-LD4-3LO-50-UNV-81-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563402
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-LD4-3LO-50-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7439.0 lumens
Efficiency: N/A
Efficacy: 106.0 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

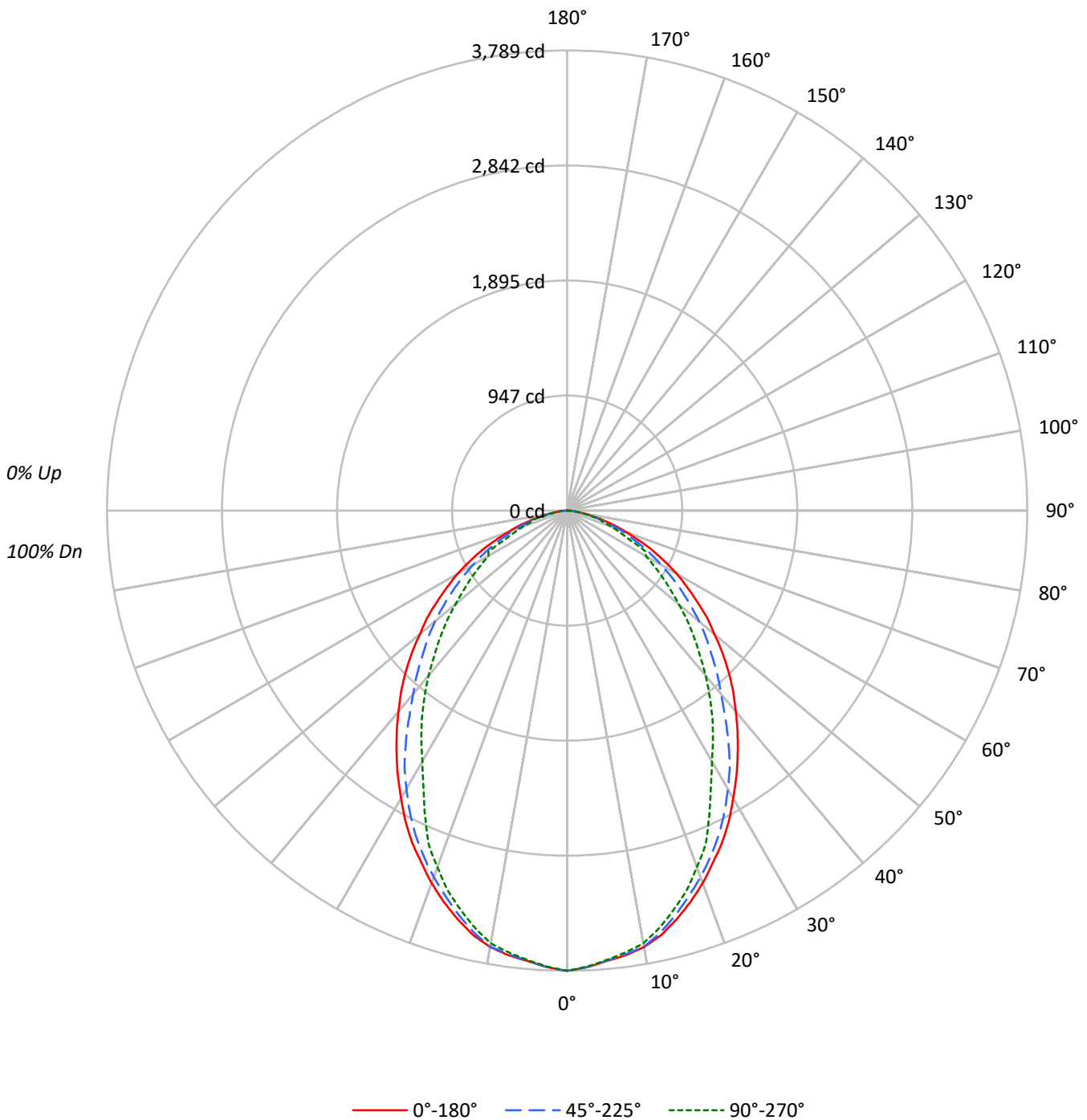
Input Watts (W): 70.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	5098	5098	5098
5°	5029	5023	5017
10°	4986	4980	4944
15°	4851	4802	4735
20°	4673	4598	4472
25°	4481	4383	4110
30°	4247	4111	3702
35°	4022	3799	3425
40°	3793	3462	3116
45°	3576	3201	2817
50°	3310	2971	2512
55°	3062	2692	2251
60°	2806	2405	2016
65°	2469	2106	1785
70°	2033	1844	1517
75°	1617	1412	1480
80°	1086	1018	951
85°	676	812	946

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3576 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	352.7	4.7
10°-20°	968.1	13.0
20°-30°	1340.2	18.0
30°-40°	1429.0	19.2
40°-50°	1303.7	17.5
50°-60°	1021.3	13.7
60°-70°	665.7	8.9
70°-80°	294.9	4.0
80°-90°	63.3	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°	2661.0	35.8
0°-40°	4090.0	55.0
0°-60°	6415.1	86.2
0°-90°	7439.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7439.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3789	3789	3789	3789	3789	
5°	3724	3719	3719	3715	3715	353
15°	3483	3483	3448	3413	3399	979
25°	3018	3001	2953	2848	2769	1386
35°	2449	2431	2313	2138	2085	1531
45°	1879	1840	1682	1542	1481	1448
55°	1306	1266	1148	1012	959	1171
65°	775	732	662	675	561	764
75°	311	289	272	258	285	333
85°	44	48	53	57	61	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3789.3	3789.3	3789.3	3789.3	3789.3
2.5°	3763.0	3763.0	3763.0	3758.7	3758.7
5°	3723.6	3719.2	3719.2	3714.9	3714.9
7.5°	3693.0	3688.6	3684.2	3679.8	3671.0
10°	3649.1	3649.1	3644.8	3622.9	3618.5
12.5°	3579.1	3574.7	3557.1	3526.5	3517.7
15°	3482.7	3482.7	3447.6	3412.6	3399.4
17.5°	3377.5	3373.2	3329.4	3294.3	3276.8
20°	3263.6	3254.9	3211.1	3154.1	3123.5
22.5°	3136.6	3136.6	3084.0	3009.6	2978.9
25°	3018.3	3000.8	2952.6	2847.5	2768.6
27.5°	2882.5	2856.2	2803.7	2654.7	2562.7
30°	2733.6	2720.4	2646.0	2453.2	2383.1
32.5°	2593.4	2571.5	2492.6	2291.1	2234.2
35°	2448.8	2431.3	2313.0	2137.8	2085.2
37.5°	2304.3	2282.4	2133.4	1993.2	1927.5
40°	2159.7	2133.4	1971.3	1844.3	1774.2
42.5°	2023.9	1988.8	1831.1	1695.3	1616.5
45°	1879.3	1839.9	1682.2	1542.0	1480.7
47.5°	1734.8	1699.7	1555.2	1410.6	1340.5
50°	1581.4	1550.8	1419.4	1274.8	1200.3
52.5°	1454.4	1406.2	1279.2	1134.6	1073.3
55°	1305.5	1266.0	1147.7	1011.9	959.4
57.5°	1169.7	1130.2	1020.7	893.7	849.9
60°	1042.6	985.7	893.7	784.1	749.1
62.5°	902.4	858.6	779.8	687.8	731.6
65°	775.4	731.6	661.5	674.6	560.7
67.5°	635.2	613.3	552.0	490.6	473.1
70°	516.9	490.6	468.7	403.0	385.5
72.5°	411.8	385.5	354.8	319.8	306.7
75°	311.0	289.1	271.6	258.5	284.7
77.5°	214.7	205.9	192.8	179.6	175.2
80°	140.2	135.8	131.4	127.0	122.7
82.5°	83.2	83.2	83.2	83.2	83.2
85°	43.8	48.2	52.6	56.9	61.3
87.5°	26.3	26.3	30.7	35.0	39.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)