

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: P561880

Luminaire Tested: FSR-12-4-LD4-2STD-50-UNV-82-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561880
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-82-88-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4661.0 lumens
Efficiency: N/A
Efficacy: 70.0 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

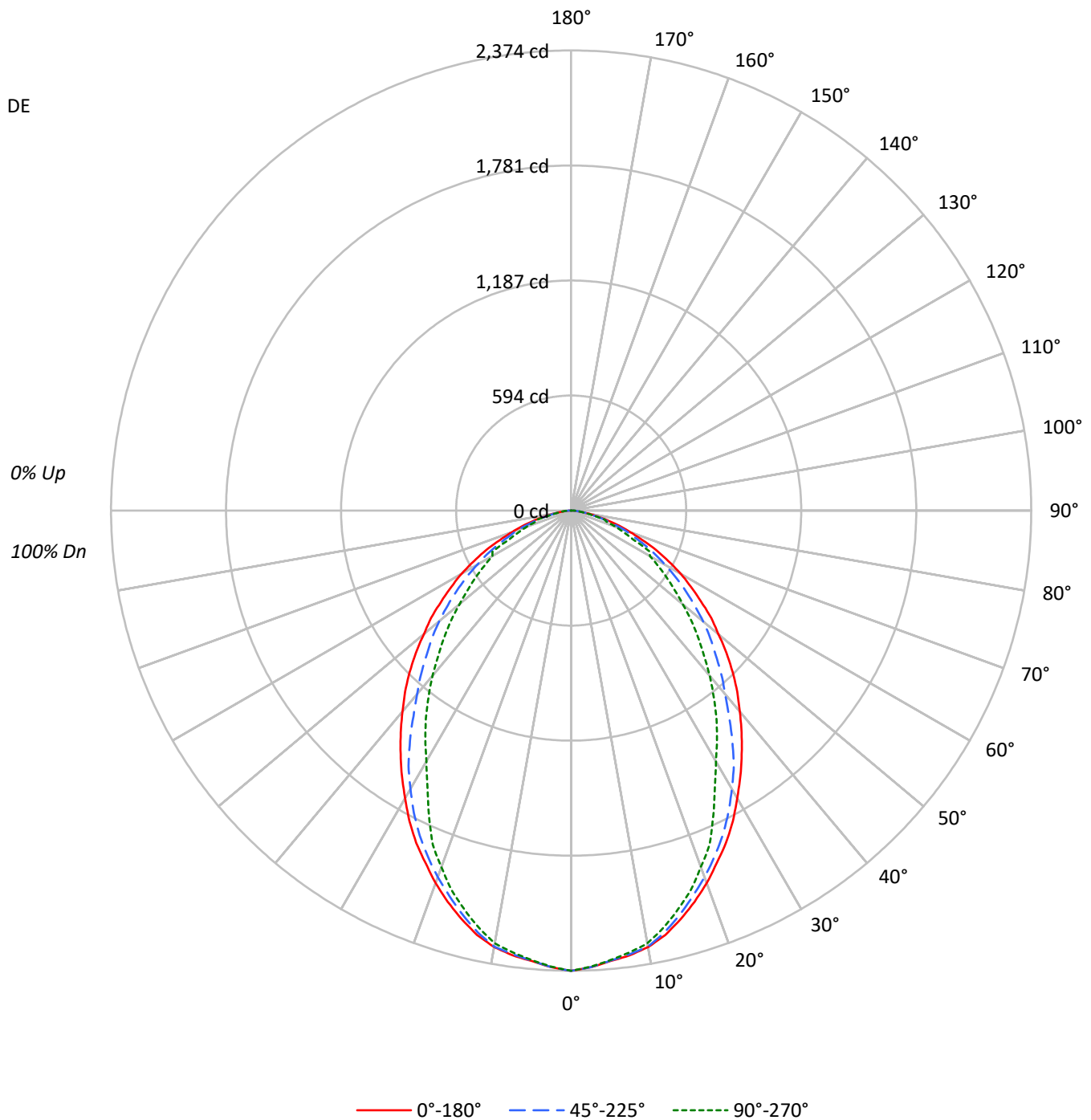
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6389	6389	6389
5°	6302	6295	6287
10°	6248	6240	6195
15°	6079	6018	5934
20°	5856	5761	5604
25°	5615	5493	5151
30°	5322	5152	4640
35°	5040	4761	4292
40°	4754	4339	3905
45°	4481	4011	3530
50°	4148	3723	3149
55°	3838	3374	2820
60°	3516	3013	2526
65°	3093	2639	2237
70°	2548	2311	1900
75°	2026	1770	1855
80°	1361	1275	1192
85°	846	1016	1186

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4481 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	221.0	4.7
10°-20°	606.5	13.0
20°-30°	839.7	18.0
30°-40°	895.4	19.2
40°-50°	816.8	17.5
50°-60°	639.9	13.7
60°-70°	417.1	8.9
70°-80°	184.8	4.0
80°-90°	39.7	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°	1667.3	35.8
0°-40°	2562.7	55.0
0°-60°	4019.5	86.2
0°-90°	4661.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4661.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2374	2374	2374	2374	2374	
5°	2333	2330	2330	2328	2328	221
15°	2182	2182	2160	2138	2130	613
25°	1891	1880	1850	1784	1735	868
35°	1534	1523	1449	1340	1306	959
45°	1178	1153	1054	966	928	907
55°	818	793	719	634	601	734
65°	486	458	414	423	351	479
75°	195	181	170	162	178	209
85°	27	30	33	36	38	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2374.3	2374.3	2374.3	2374.3	2374.3
2.5°	2357.8	2357.8	2357.8	2355.0	2355.0
5°	2333.1	2330.3	2330.3	2327.6	2327.6
7.5°	2313.9	2311.1	2308.4	2305.6	2300.1
10°	2286.4	2286.4	2283.7	2269.9	2267.2
12.5°	2242.5	2239.8	2228.8	2209.6	2204.1
15°	2182.1	2182.1	2160.2	2138.2	2130.0
17.5°	2116.2	2113.5	2086.0	2064.1	2053.1
20°	2044.9	2039.4	2011.9	1976.3	1957.0
22.5°	1965.3	1965.3	1932.3	1885.7	1866.5
25°	1891.2	1880.2	1850.0	1784.1	1734.7
27.5°	1806.1	1789.6	1756.7	1663.3	1605.7
30°	1712.8	1704.5	1657.9	1537.1	1493.2
32.5°	1624.9	1611.2	1561.8	1435.5	1399.8
35°	1534.3	1523.4	1449.3	1339.5	1306.5
37.5°	1443.8	1430.0	1336.7	1248.9	1207.7
40°	1353.2	1336.7	1235.2	1155.6	1111.6
42.5°	1268.1	1246.1	1147.3	1062.2	1012.8
45°	1177.5	1152.8	1054.0	966.2	927.7
47.5°	1086.9	1065.0	974.4	883.8	839.9
50°	990.9	971.7	889.3	798.7	752.1
52.5°	911.3	881.1	801.5	710.9	672.5
55°	818.0	793.2	719.1	634.0	601.1
57.5°	732.9	708.2	639.5	559.9	532.5
60°	653.3	617.6	559.9	491.3	469.4
62.5°	565.4	538.0	488.6	430.9	458.4
65°	485.8	458.4	414.5	422.7	351.3
67.5°	398.0	384.3	345.8	307.4	296.4
70°	323.9	307.4	293.7	252.5	241.5
72.5°	258.0	241.5	222.3	200.4	192.1
75°	194.9	181.2	170.2	161.9	178.4
77.5°	134.5	129.0	120.8	112.5	109.8
80°	87.8	85.1	82.3	79.6	76.9
82.5°	52.2	52.2	52.2	52.2	52.2
85°	27.4	30.2	32.9	35.7	38.4
87.5°	16.5	16.5	19.2	22.0	24.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)