

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: P561047

Luminaire Tested: FSR-12-4-LD4-1LO-40-UNV-82-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561047
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-LD4-1LO-40-UNV-82-87-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

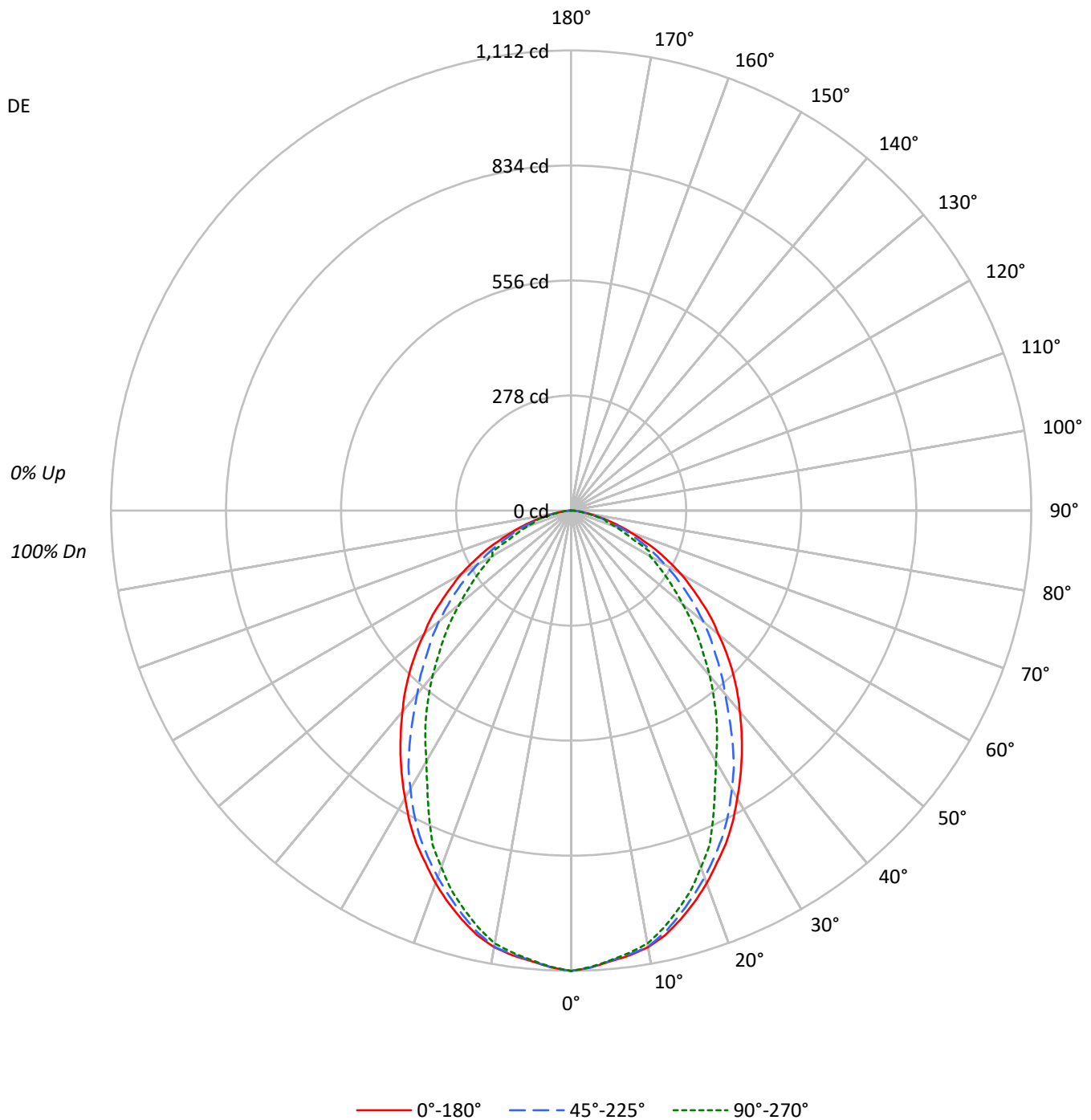
Lumens per Lamp: N/A
Luminaire Lumens: 2184.0 lumens
Efficiency: N/A
Efficacy: 93.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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	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°	2994	2994	2994
5°	2953	2950	2946
10°	2927	2924	2903
15°	2849	2820	2780
20°	2744	2700	2626
25°	2631	2574	2413
30°	2494	2414	2174
35°	2362	2231	2011
40°	2227	2033	1830
45°	2100	1880	1654
50°	1944	1744	1475
55°	1798	1581	1322
60°	1647	1412	1183
65°	1449	1237	1048
70°	1194	1083	891
75°	949	829	869
80°	638	598	558
85°	398	475	556

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2100 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.6	4.7
10°-20°	284.2	13.0
20°-30°	393.5	18.0
30°-40°	419.5	19.2
40°-50°	382.8	17.5
50°-60°	299.9	13.7
60°-70°	195.4	8.9
70°-80°	86.6	4.0
80°-90°	18.6	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°	781.2	35.8
0°-40°	1200.8	55.0
0°-60°	1883.4	86.2
0°-90°	2184.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2184.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1112	1112	1112	1112	1112	
5°	1093	1092	1092	1091	1091	104
15°	1022	1022	1012	1002	998	287
25°	886	881	867	836	813	407
35°	719	714	679	628	612	449
45°	552	540	494	453	435	425
55°	383	372	337	297	282	344
65°	228	215	194	198	165	224
75°	91	85	80	76	84	98
85°	13	14	15	17	18	18
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1112.5	1112.5	1112.5	1112.5	1112.5
2.5°	1104.8	1104.8	1104.8	1103.5	1103.5
5°	1093.2	1091.9	1091.9	1090.6	1090.6
7.5°	1084.2	1082.9	1081.6	1080.3	1077.8
10°	1071.3	1071.3	1070.1	1063.6	1062.3
12.5°	1050.8	1049.5	1044.3	1035.3	1032.8
15°	1022.5	1022.5	1012.2	1001.9	998.0
17.5°	991.6	990.3	977.5	967.2	962.0
20°	958.2	955.6	942.7	926.0	917.0
22.5°	920.9	920.9	905.4	883.6	874.6
25°	886.1	881.0	866.9	836.0	812.8
27.5°	846.3	838.6	823.1	779.4	752.4
30°	802.5	798.7	776.8	720.2	699.7
32.5°	761.4	755.0	731.8	672.6	655.9
35°	718.9	713.8	679.1	627.6	612.2
37.5°	676.5	670.1	626.3	585.2	565.9
40°	634.1	626.3	578.8	541.5	520.9
42.5°	594.2	583.9	537.6	497.7	474.6
45°	551.7	540.2	493.9	452.7	434.7
47.5°	509.3	499.0	456.6	414.1	393.6
50°	464.3	455.3	416.7	374.3	352.4
52.5°	427.0	412.8	375.5	333.1	315.1
55°	383.3	371.7	337.0	297.1	281.7
57.5°	343.4	331.8	299.7	262.4	249.5
60°	306.1	289.4	262.4	230.2	219.9
62.5°	264.9	252.1	228.9	201.9	214.8
65°	227.6	214.8	194.2	198.1	164.6
67.5°	186.5	180.1	162.1	144.0	138.9
70°	151.8	144.0	137.6	118.3	113.2
72.5°	120.9	113.2	104.2	93.9	90.0
75°	91.3	84.9	79.7	75.9	83.6
77.5°	63.0	60.4	56.6	52.7	51.4
80°	41.2	39.9	38.6	37.3	36.0
82.5°	24.4	24.4	24.4	24.4	24.4
85°	12.9	14.1	15.4	16.7	18.0
87.5°	7.7	7.7	9.0	10.3	11.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)