

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: P561671

Luminaire Tested: FSR-12-4-LD4-2LO-50-UNV-81-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561671
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-LD4-2LO-50-UNV-81-87-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

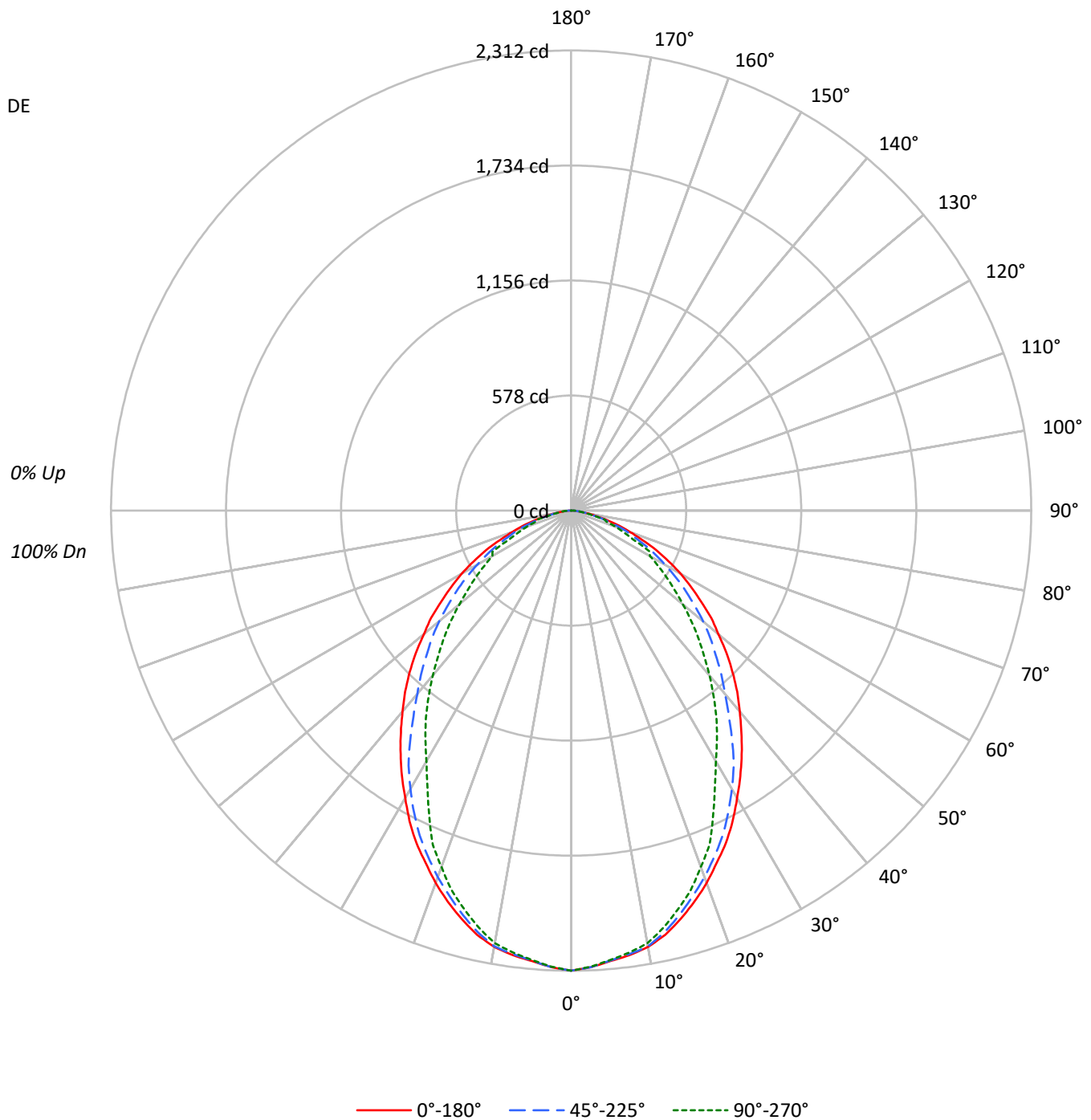
Lumens per Lamp: N/A
Luminaire Lumens: 4538.0 lumens
Efficiency: N/A
Efficacy: 97.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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°	6220	6220	6220
5°	6136	6129	6122
10°	6083	6075	6032
15°	5919	5859	5777
20°	5701	5609	5456
25°	5467	5348	5015
30°	5182	5015	4517
35°	4908	4635	4179
40°	4628	4225	3802
45°	4363	3905	3438
50°	4039	3625	3065
55°	3736	3285	2746
60°	3423	2934	2460
65°	3012	2569	2178
70°	2481	2249	1851
75°	1972	1723	1806
80°	1325	1243	1159
85°	824	991	1155

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4363 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	215.2	4.7
10°-20°	590.5	13.0
20°-30°	817.6	18.0
30°-40°	871.8	19.2
40°-50°	795.3	17.5
50°-60°	623.1	13.7
60°-70°	406.1	8.9
70°-80°	179.9	4.0
80°-90°	38.6	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°	1623.3	35.8
0°-40°	2495.0	55.0
0°-60°	3913.4	86.2
0°-90°	4538.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4538.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2312	2312	2312	2312	2312	
5°	2272	2269	2269	2266	2266	216
15°	2124	2124	2103	2082	2074	597
25°	1841	1831	1801	1737	1689	845
35°	1494	1483	1411	1304	1272	934
45°	1146	1122	1026	941	903	883
55°	796	772	700	617	585	714
65°	473	446	404	412	342	466
75°	190	176	166	158	174	203
85°	27	29	32	35	37	37
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2311.6	2311.6	2311.6	2311.6	2311.6
2.5°	2295.6	2295.6	2295.6	2292.9	2292.9
5°	2271.5	2268.8	2268.8	2266.2	2266.2
7.5°	2252.8	2250.1	2247.5	2244.8	2239.4
10°	2226.1	2226.1	2223.4	2210.0	2207.4
12.5°	2183.3	2180.7	2170.0	2151.3	2145.9
15°	2124.5	2124.5	2103.2	2081.8	2073.8
17.5°	2060.4	2057.7	2031.0	2009.6	1998.9
20°	1990.9	1985.6	1958.8	1924.1	1905.4
22.5°	1913.4	1913.4	1881.3	1835.9	1817.2
25°	1841.3	1830.6	1801.2	1737.0	1688.9
27.5°	1758.4	1742.4	1710.3	1619.5	1563.3
30°	1667.6	1659.5	1614.1	1496.5	1453.8
32.5°	1582.0	1568.7	1520.6	1397.6	1362.9
35°	1493.9	1483.2	1411.0	1304.1	1272.0
37.5°	1405.7	1392.3	1301.4	1215.9	1175.8
40°	1317.5	1301.4	1202.6	1125.1	1082.3
42.5°	1234.6	1213.3	1117.0	1034.2	986.1
45°	1146.4	1122.4	1026.2	940.7	903.3
47.5°	1058.3	1036.9	948.7	860.5	817.7
50°	964.7	946.0	865.8	777.7	732.2
52.5°	887.2	857.8	780.3	692.1	654.7
55°	796.4	772.3	700.2	617.3	585.2
57.5°	713.5	689.5	622.7	545.2	518.4
60°	636.0	601.3	545.2	478.4	457.0
62.5°	550.5	523.8	475.7	419.6	446.3
65°	473.0	446.3	403.5	411.5	342.1
67.5°	387.5	374.1	336.7	299.3	288.6
70°	315.3	299.3	285.9	245.9	235.2
72.5°	251.2	235.2	216.5	195.1	187.1
75°	189.7	176.4	165.7	157.7	173.7
77.5°	130.9	125.6	117.6	109.6	106.9
80°	85.5	82.8	80.2	77.5	74.8
82.5°	50.8	50.8	50.8	50.8	50.8
85°	26.7	29.4	32.1	34.7	37.4
87.5°	16.0	16.0	18.7	21.4	24.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)