

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: P560853

Luminaire Tested: FSR-12-4-LD4-1HI-40-UNV-82-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560853
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-LD4-1HI-40-UNV-82-86-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3708.0 lumens
Efficiency: N/A
Efficacy: 85.8 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

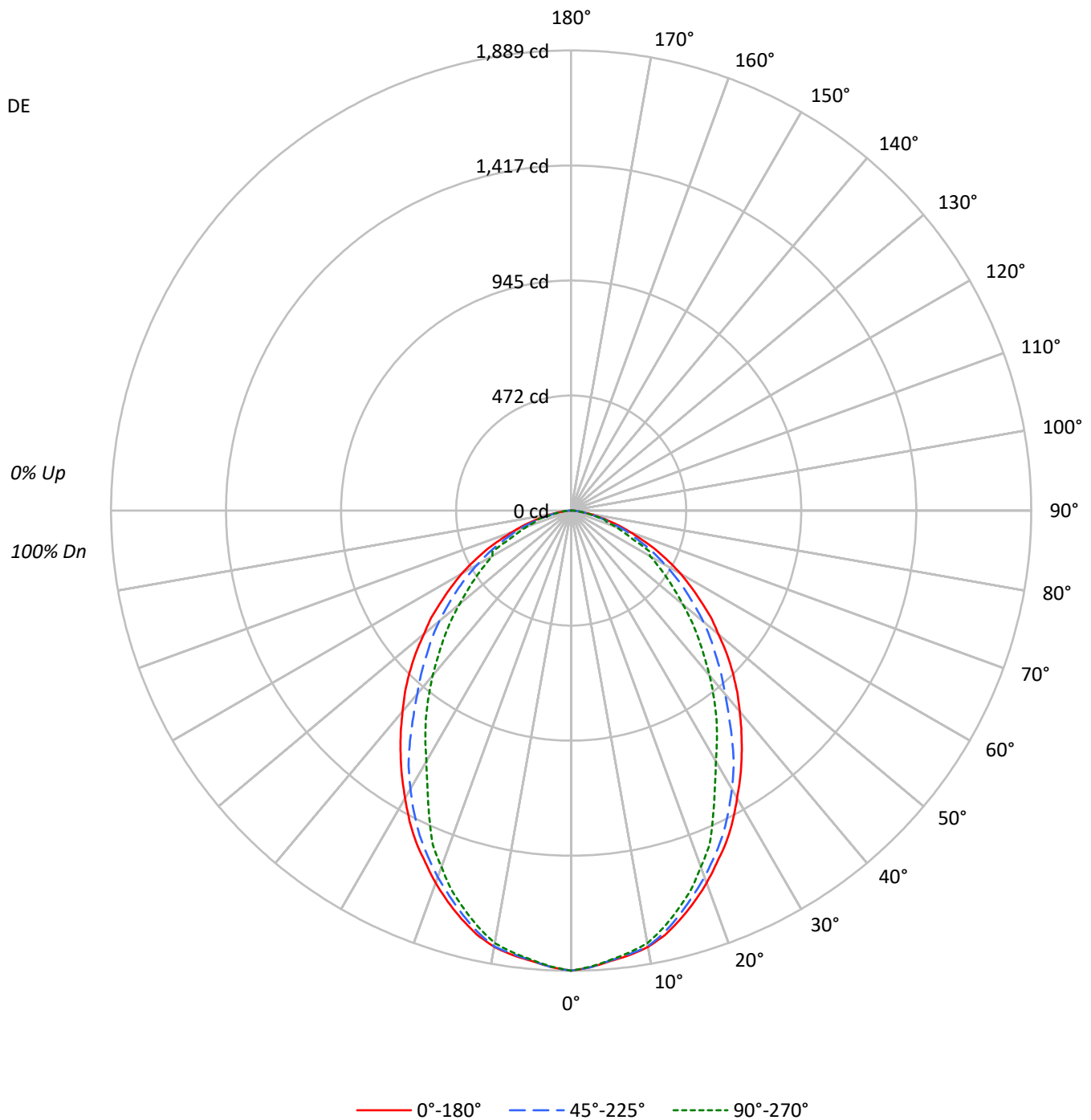
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	5083	5083	5083
5°	5014	5008	5002
10°	4970	4964	4928
15°	4836	4788	4721
20°	4659	4584	4458
25°	4467	4370	4097
30°	4234	4098	3691
35°	4010	3787	3415
40°	3782	3452	3107
45°	3565	3191	2809
50°	3300	2962	2505
55°	3053	2684	2244
60°	2797	2398	2010
65°	2461	2099	1780
70°	2028	1838	1512
75°	1612	1408	1475
80°	1083	1015	947
85°	673	809	945

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3565 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	175.8	4.7
10°-20°	482.5	13.0
20°-30°	668.0	18.0
30°-40°	712.3	19.2
40°-50°	649.8	17.5
50°-60°	509.1	13.7
60°-70°	331.8	8.9
70°-80°	147.0	4.0
80°-90°	31.6	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°	1326.4	35.8
0°-40°	2038.7	55.0
0°-60°	3197.6	86.2
0°-90°	3708.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3708.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1889	1889	1889	1889	1889	
5°	1856	1854	1854	1852	1852	176
15°	1736	1736	1718	1701	1694	488
25°	1504	1496	1472	1419	1380	691
35°	1221	1212	1153	1066	1039	763
45°	937	917	838	769	738	722
55°	651	631	572	504	478	584
65°	386	365	330	336	280	381
75°	155	144	135	129	142	166
85°	22	24	26	28	31	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1888.8	1888.8	1888.8	1888.8	1888.8
2.5°	1875.7	1875.7	1875.7	1873.5	1873.5
5°	1856.1	1853.9	1853.9	1851.7	1851.7
7.5°	1840.8	1838.6	1836.4	1834.2	1829.8
10°	1818.9	1818.9	1816.7	1805.8	1803.6
12.5°	1784.0	1781.8	1773.1	1757.8	1753.4
15°	1736.0	1736.0	1718.5	1701.0	1694.5
17.5°	1683.5	1681.4	1659.5	1642.1	1633.3
20°	1626.8	1622.4	1600.6	1572.2	1556.9
22.5°	1563.5	1563.5	1537.2	1500.1	1484.8
25°	1504.5	1495.8	1471.7	1419.3	1380.0
27.5°	1436.8	1423.7	1397.5	1323.3	1277.4
30°	1362.6	1356.0	1318.9	1222.8	1187.9
32.5°	1292.7	1281.8	1242.5	1142.0	1113.6
35°	1220.6	1211.9	1152.9	1065.6	1039.4
37.5°	1148.6	1137.7	1063.4	993.5	960.8
40°	1076.5	1063.4	982.6	919.3	884.4
42.5°	1008.8	991.4	912.7	845.0	805.7
45°	936.8	917.1	838.5	768.6	738.1
47.5°	864.7	847.2	775.2	703.1	668.2
50°	788.3	773.0	707.5	635.4	598.3
52.5°	725.0	700.9	637.6	565.5	535.0
55°	650.7	631.1	572.1	504.4	478.2
57.5°	583.0	563.4	508.8	445.5	423.6
60°	519.7	491.3	445.5	390.9	373.4
62.5°	449.8	428.0	388.7	342.8	364.7
65°	386.5	364.7	329.7	336.3	279.5
67.5°	316.6	305.7	275.1	244.6	235.8
70°	257.7	244.6	233.6	200.9	192.2
72.5°	205.3	192.2	176.9	159.4	152.9
75°	155.0	144.1	135.4	128.8	141.9
77.5°	107.0	102.6	96.1	89.5	87.3
80°	69.9	67.7	65.5	63.3	61.1
82.5°	41.5	41.5	41.5	41.5	41.5
85°	21.8	24.0	26.2	28.4	30.6
87.5°	13.1	13.1	15.3	17.5	19.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)