

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: P561301

Luminaire Tested: FSR-12-4-LD4-1STD-50-UNV-82-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561301
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-LD4-1STD-50-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3075.0 lumens
Efficiency: N/A
Efficacy: 92.3 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

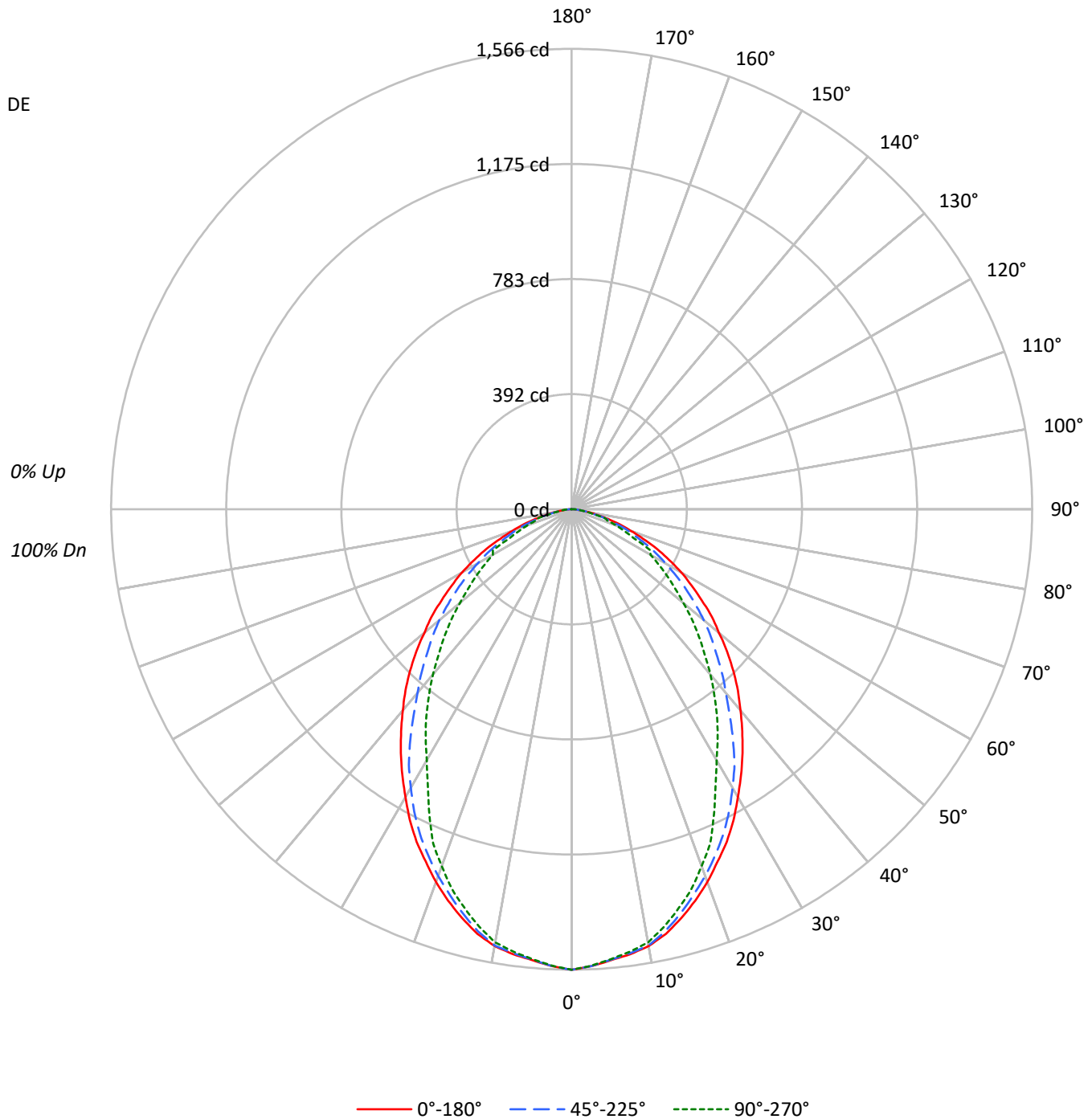
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	4215	4215	4215
5°	4158	4153	4148
10°	4122	4117	4087
15°	4011	3970	3915
20°	3863	3801	3697
25°	3705	3624	3398
30°	3511	3398	3061
35°	3325	3141	2832
40°	3136	2863	2576
45°	2956	2646	2329
50°	2737	2456	2077
55°	2532	2226	1861
60°	2320	1988	1667
65°	2041	1741	1476
70°	1681	1525	1254
75°	1337	1168	1224
80°	897	841	786
85°	559	670	784

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2956 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	145.8	4.7
10°-20°	400.2	13.0
20°-30°	554.0	18.0
30°-40°	590.7	19.2
40°-50°	538.9	17.5
50°-60°	422.2	13.7
60°-70°	275.2	8.9
70°-80°	121.9	4.0
80°-90°	26.2	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°	1099.9	35.8
0°-40°	1690.7	55.0
0°-60°	2651.8	86.2
0°-90°	3075.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3075.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1566	1566	1566	1566	1566	
5°	1539	1537	1537	1536	1536	146
15°	1440	1440	1425	1411	1405	405
25°	1248	1240	1220	1177	1144	573
35°	1012	1005	956	884	862	633
45°	777	760	695	637	612	598
55°	540	523	474	418	397	484
65°	320	302	273	279	232	316
75°	129	120	112	107	118	138
85°	18	20	22	24	25	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1566.4	1566.4	1566.4	1566.4	1566.4
2.5°	1555.5	1555.5	1555.5	1553.7	1553.7
5°	1539.2	1537.4	1537.4	1535.6	1535.6
7.5°	1526.5	1524.7	1522.9	1521.1	1517.5
10°	1508.4	1508.4	1506.6	1497.6	1495.7
12.5°	1479.4	1477.6	1470.4	1457.7	1454.1
15°	1439.6	1439.6	1425.1	1410.6	1405.2
17.5°	1396.1	1394.3	1376.2	1361.7	1354.5
20°	1349.1	1345.4	1327.3	1303.8	1291.1
22.5°	1296.6	1296.6	1274.8	1244.0	1231.4
25°	1247.7	1240.4	1220.5	1177.0	1144.4
27.5°	1191.5	1180.7	1158.9	1097.4	1059.3
30°	1130.0	1124.5	1093.7	1014.1	985.1
32.5°	1072.0	1063.0	1030.4	947.1	923.5
35°	1012.3	1005.0	956.1	883.7	862.0
37.5°	952.5	943.4	881.9	823.9	796.8
40°	892.7	881.9	814.9	762.4	733.4
42.5°	836.6	822.1	756.9	700.8	668.2
45°	776.8	760.5	695.4	637.4	612.1
47.5°	717.1	702.6	642.8	583.1	554.1
50°	653.7	641.0	586.7	527.0	496.2
52.5°	601.2	581.3	528.8	469.0	443.7
55°	539.6	523.3	474.4	418.3	396.6
57.5°	483.5	467.2	421.9	369.4	351.3
60°	431.0	407.4	369.4	324.1	309.7
62.5°	373.0	354.9	322.3	284.3	302.4
65°	320.5	302.4	273.4	278.9	231.8
67.5°	262.6	253.5	228.2	202.8	195.6
70°	213.7	202.8	193.8	166.6	159.4
72.5°	170.2	159.4	146.7	132.2	126.8
75°	128.6	119.5	112.3	106.8	117.7
77.5°	88.7	85.1	79.7	74.2	72.4
80°	57.9	56.1	54.3	52.5	50.7
82.5°	34.4	34.4	34.4	34.4	34.4
85°	18.1	19.9	21.7	23.5	25.4
87.5°	10.9	10.9	12.7	14.5	16.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)