

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: P560786

Luminaire Tested: FSR-12-4-LD4-1HI-35-UNV-82-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560786
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-35-UNV-82-85-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3107.0 lumens
Efficiency: N/A
Efficacy: 71.9 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

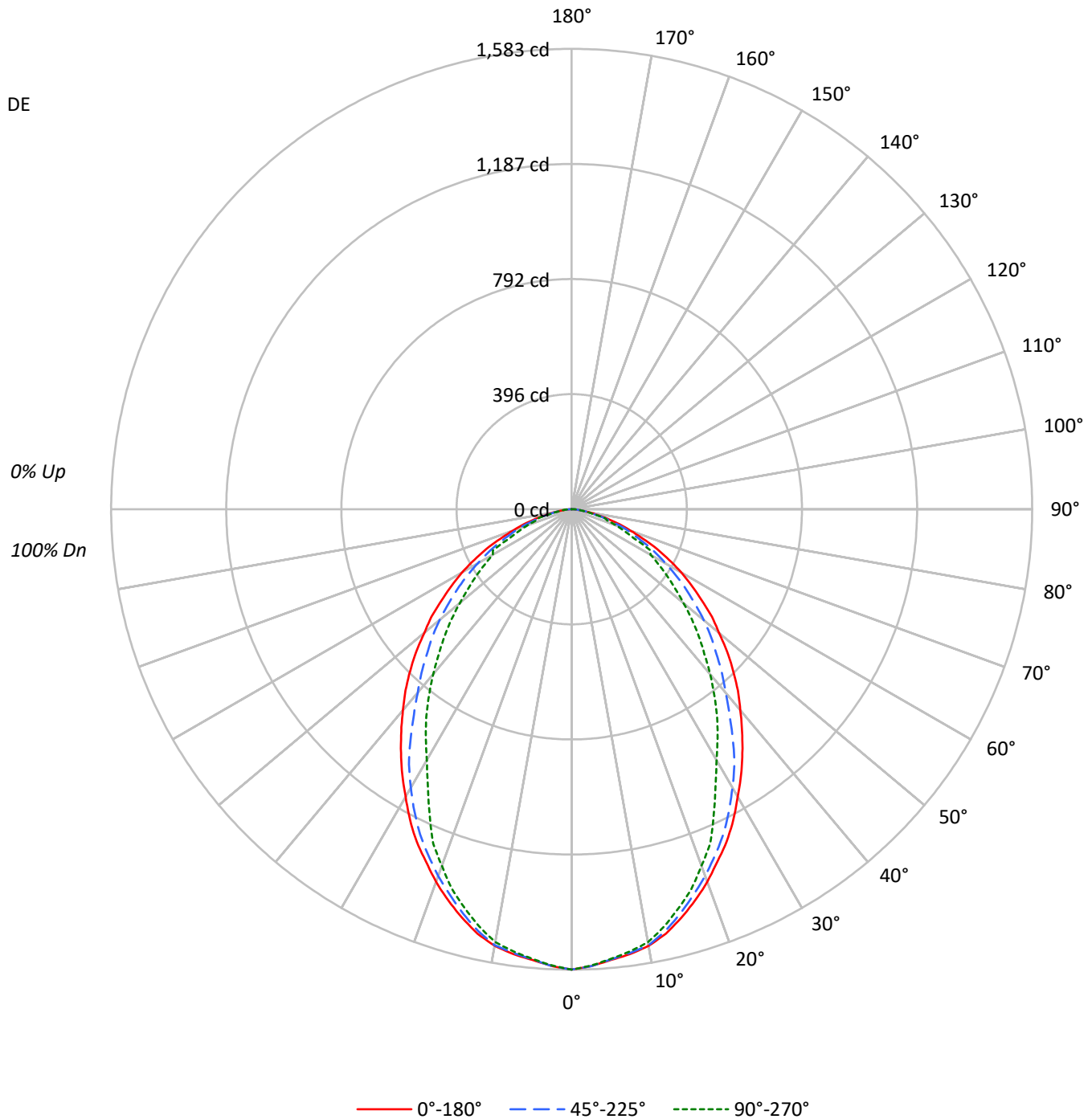
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	4259	4259	4259
5°	4201	4196	4191
10°	4165	4160	4130
15°	4052	4012	3955
20°	3903	3840	3736
25°	3743	3662	3434
30°	3548	3434	3093
35°	3360	3174	2861
40°	3169	2892	2603
45°	2987	2674	2353
50°	2765	2482	2099
55°	2558	2249	1880
60°	2344	2009	1684
65°	2062	1759	1491
70°	1699	1541	1267
75°	1351	1179	1236
80°	907	851	793
85°	565	679	790

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2987 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.3	4.7
10°-20°	404.3	13.0
20°-30°	559.8	18.0
30°-40°	596.9	19.2
40°-50°	544.5	17.5
50°-60°	426.6	13.7
60°-70°	278.0	8.9
70°-80°	123.2	4.0
80°-90°	26.5	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°	1111.4	35.8
0°-40°	1708.3	55.0
0°-60°	2679.4	86.2
0°-90°	3107.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3107.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1583	1583	1583	1583	1583	
5°	1555	1553	1553	1552	1552	148
15°	1455	1455	1440	1425	1420	409
25°	1261	1253	1233	1189	1156	579
35°	1023	1016	966	893	871	639
45°	785	768	703	644	618	605
55°	545	529	479	423	401	489
65°	324	306	276	282	234	319
75°	130	121	113	108	119	139
85°	18	20	22	24	26	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1582.7	1582.7	1582.7	1582.7	1582.7
2.5°	1571.7	1571.7	1571.7	1569.9	1569.9
5°	1555.2	1553.4	1553.4	1551.6	1551.6
7.5°	1542.4	1540.6	1538.8	1536.9	1533.3
10°	1524.1	1524.1	1522.3	1513.1	1511.3
12.5°	1494.8	1493.0	1485.7	1472.9	1469.2
15°	1454.6	1454.6	1440.0	1425.3	1419.8
17.5°	1410.7	1408.8	1390.5	1375.9	1368.6
20°	1363.1	1359.4	1341.1	1317.4	1304.6
22.5°	1310.0	1310.0	1288.1	1257.0	1244.2
25°	1260.6	1253.3	1233.2	1189.3	1156.4
27.5°	1203.9	1192.9	1171.0	1108.8	1070.4
30°	1141.7	1136.2	1105.1	1024.6	995.3
32.5°	1083.2	1074.0	1041.1	956.9	933.1
35°	1022.8	1015.5	966.1	892.9	870.9
37.5°	962.4	953.3	891.0	832.5	805.1
40°	902.0	891.0	823.4	770.3	741.0
42.5°	845.3	830.7	764.8	708.1	675.1
45°	784.9	768.5	702.6	644.0	618.4
47.5°	724.5	709.9	649.5	589.2	559.9
50°	660.5	647.7	592.8	532.4	501.3
52.5°	607.5	587.3	534.3	473.9	448.3
55°	545.2	528.8	479.4	422.7	400.7
57.5°	488.5	472.1	426.3	373.3	355.0
60°	435.5	411.7	373.3	327.5	312.9
62.5°	376.9	358.6	325.7	287.3	305.6
65°	323.9	305.6	276.3	281.8	234.2
67.5°	265.3	256.2	230.5	204.9	197.6
70°	215.9	204.9	195.8	168.3	161.0
72.5°	172.0	161.0	148.2	133.6	128.1
75°	129.9	120.8	113.4	108.0	118.9
77.5°	89.7	86.0	80.5	75.0	73.2
80°	58.5	56.7	54.9	53.1	51.2
82.5°	34.8	34.8	34.8	34.8	34.8
85°	18.3	20.1	22.0	23.8	25.6
87.5°	11.0	11.0	12.8	14.6	16.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)