

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: P561233

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-82-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561233
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-40-UNV-82-84-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3120.0 lumens
Efficiency: N/A
Efficacy: 93.7 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

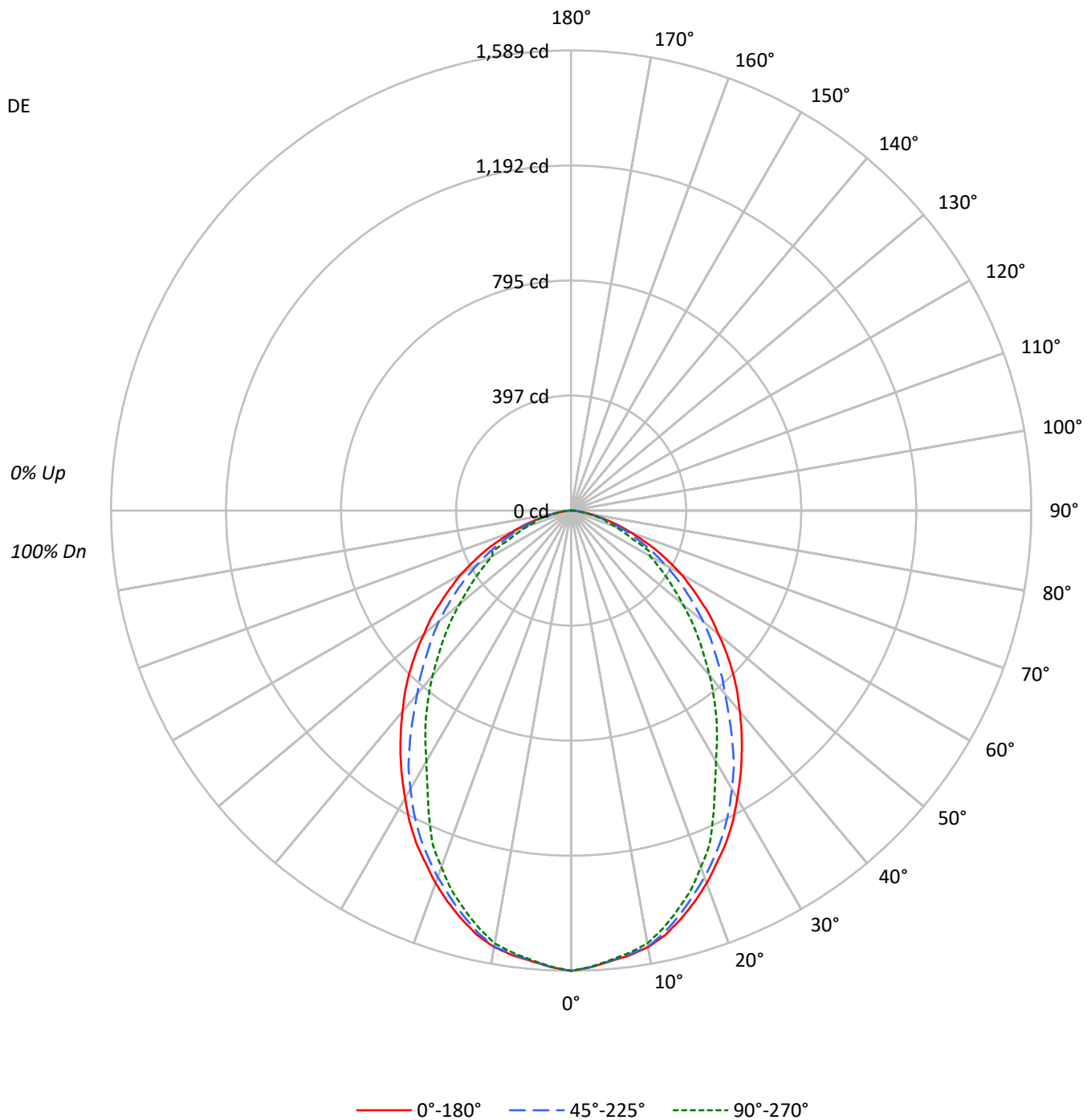
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P561233

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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°	4277	4277	4277
5°	4219	4214	4209
10°	4182	4177	4147
15°	4069	4028	3972
20°	3920	3857	3751
25°	3759	3677	3448
30°	3562	3448	3106
35°	3374	3187	2873
40°	3182	2904	2614
45°	3000	2685	2363
50°	2777	2492	2107
55°	2569	2259	1888
60°	2354	2017	1691
65°	2071	1766	1498
70°	1706	1547	1272
75°	1357	1184	1241
80°	911	854	797
85°	568	679	794

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3000 cd/sqm

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CATALOG NUMBER: FSR-12-4-LD4-1STD-40-UNV-82-84-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.9	4.7
10°-20°	406.0	13.0
20°-30°	562.1	18.0
30°-40°	599.4	19.2
40°-50°	546.8	17.5
50°-60°	428.4	13.7
60°-70°	279.2	8.9
70°-80°	123.7	4.0
80°-90°	26.6	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°	1116.1	35.8
0°-40°	1715.4	55.0
0°-60°	2690.6	86.2
0°-90°	3120.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3120.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1589	1589	1589	1589	1589	
5°	1562	1560	1560	1558	1558	148
15°	1461	1461	1446	1431	1426	411
25°	1266	1259	1238	1194	1161	581
35°	1027	1020	970	897	875	642
45°	788	772	706	647	621	607
55°	548	531	481	424	402	491
65°	325	307	277	283	235	320
75°	130	121	114	108	119	140
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°	1589.3	1589.3	1589.3	1589.3	1589.3
2.5°	1578.3	1578.3	1578.3	1576.4	1576.4
5°	1561.7	1559.9	1559.9	1558.1	1558.1
7.5°	1548.9	1547.0	1545.2	1543.4	1539.7
10°	1530.5	1530.5	1528.7	1519.5	1517.6
12.5°	1501.1	1499.3	1491.9	1479.0	1475.4
15°	1460.7	1460.7	1446.0	1431.3	1425.8
17.5°	1416.6	1414.7	1396.4	1381.7	1374.3
20°	1368.8	1365.1	1346.8	1322.9	1310.0
22.5°	1315.5	1315.5	1293.5	1262.2	1249.4
25°	1265.9	1258.6	1238.4	1194.3	1161.2
27.5°	1209.0	1197.9	1175.9	1113.4	1074.8
30°	1146.5	1141.0	1109.7	1028.9	999.5
32.5°	1087.7	1078.5	1045.4	960.9	937.0
35°	1027.1	1019.7	970.1	896.6	874.6
37.5°	966.4	957.2	894.8	836.0	808.4
40°	905.8	894.8	826.8	773.5	744.1
42.5°	848.8	834.1	768.0	711.0	678.0
45°	788.2	771.7	705.5	646.7	621.0
47.5°	727.6	712.9	652.3	591.6	562.2
50°	663.3	650.4	595.3	534.7	503.4
52.5°	610.0	589.8	536.5	475.9	450.1
55°	547.5	531.0	481.4	424.4	402.4
57.5°	490.6	474.0	428.1	374.8	356.4
60°	437.3	413.4	374.8	328.9	314.2
62.5°	378.5	360.1	327.0	288.5	306.8
65°	325.2	306.8	277.4	282.9	235.2
67.5°	266.4	257.2	231.5	205.8	198.4
70°	216.8	205.8	196.6	169.0	161.7
72.5°	172.7	161.7	148.8	134.1	128.6
75°	130.5	121.3	113.9	108.4	119.4
77.5°	90.0	86.4	80.8	75.3	73.5
80°	58.8	57.0	55.1	53.3	51.4
82.5°	34.9	34.9	34.9	34.9	34.9
85°	18.4	20.2	22.0	23.9	25.7
87.5°	11.0	11.0	12.9	14.7	16.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)