

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: P560981

Luminaire Tested: FSR-12-4-LD4-1LO-35-UNV-82-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560981
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-LD4-1LO-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2235.0 lumens
Efficiency: N/A
Efficacy: 95.5 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

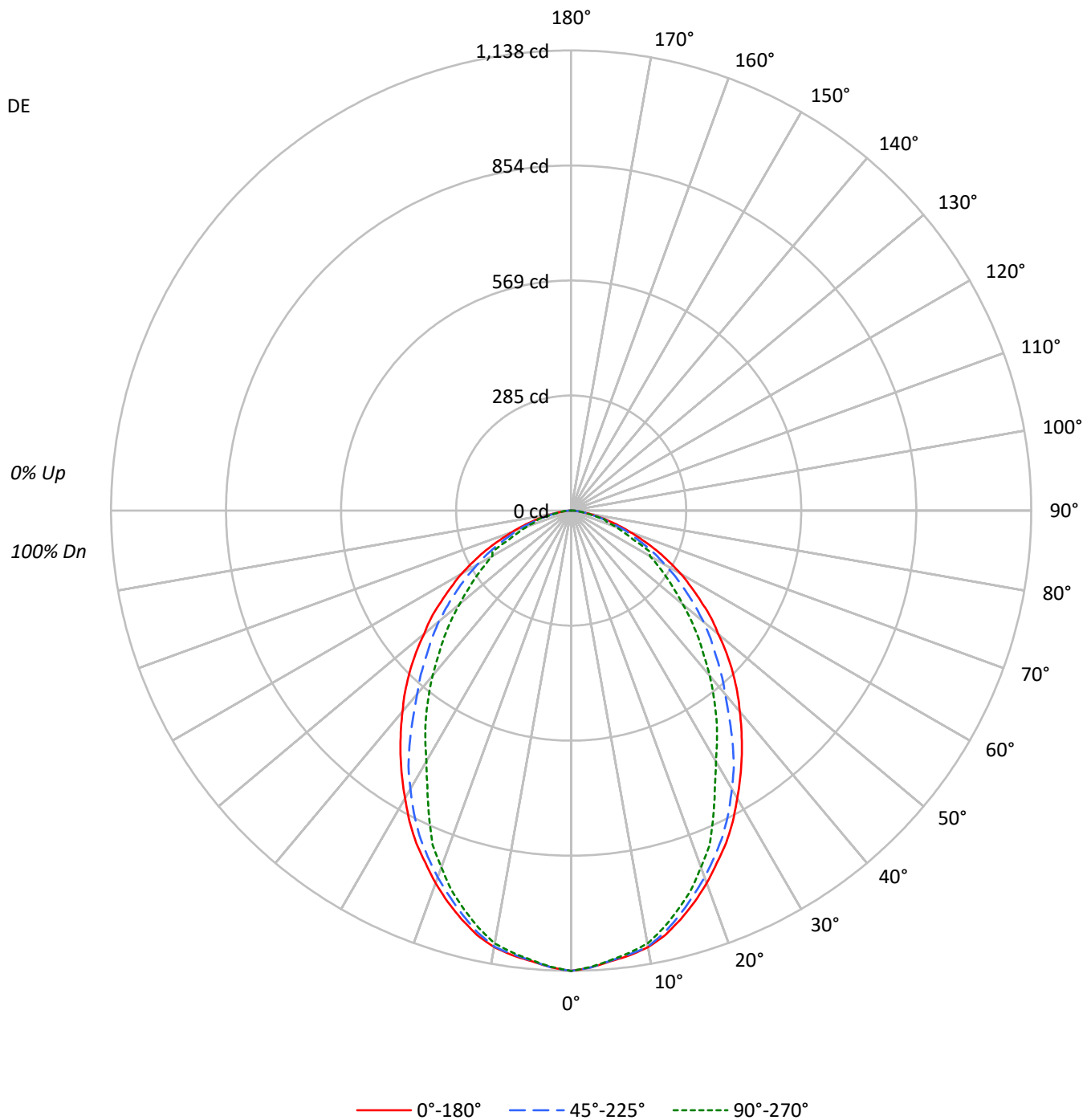
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3064	3064	3064
5°	3022	3018	3015
10°	2996	2992	2970
15°	2915	2886	2845
20°	2808	2763	2687
25°	2692	2634	2470
30°	2552	2470	2225
35°	2417	2283	2058
40°	2279	2081	1872
45°	2149	1923	1693
50°	1989	1785	1510
55°	1840	1618	1352
60°	1686	1445	1211
65°	1484	1265	1073
70°	1222	1108	911
75°	971	848	890
80°	652	612	572
85°	408	488	568

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2149 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	106.0	4.7
10°-20°	290.8	13.0
20°-30°	402.7	18.0
30°-40°	429.4	19.2
40°-50°	391.7	17.5
50°-60°	306.9	13.7
60°-70°	200.0	8.9
70°-80°	88.6	4.0
80°-90°	19.0	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°	799.5	35.8
0°-40°	1228.8	55.0
0°-60°	1927.4	86.2
0°-90°	2235.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2235.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1138	1138	1138	1138	1138	
5°	1119	1117	1117	1116	1116	106
15°	1046	1046	1036	1025	1021	294
25°	907	902	887	856	832	416
35°	736	730	695	642	626	460
45°	565	553	505	463	445	435
55°	392	380	345	304	288	352
65°	233	220	199	203	168	230
75°	93	87	82	78	86	100
85°	13	14	16	17	18	18
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1138.5	1138.5	1138.5	1138.5	1138.5
2.5°	1130.6	1130.6	1130.6	1129.3	1129.3
5°	1118.7	1117.4	1117.4	1116.1	1116.1
7.5°	1109.5	1108.2	1106.9	1105.6	1102.9
10°	1096.4	1096.4	1095.0	1088.5	1087.1
12.5°	1075.3	1074.0	1068.7	1059.5	1056.9
15°	1046.3	1046.3	1035.8	1025.3	1021.3
17.5°	1014.8	1013.4	1000.3	989.8	984.5
20°	980.5	977.9	964.7	947.6	938.4
22.5°	942.4	942.4	926.6	904.2	895.0
25°	906.8	901.6	887.1	855.5	831.8
27.5°	866.0	858.1	842.3	797.6	770.0
30°	821.3	817.3	795.0	737.1	716.0
32.5°	779.2	772.6	748.9	688.4	671.2
35°	735.7	730.5	694.9	642.3	626.5
37.5°	692.3	685.7	641.0	598.9	579.1
40°	648.9	641.0	592.3	554.1	533.0
42.5°	608.1	597.5	550.2	509.4	485.7
45°	564.6	552.8	505.4	463.3	444.9
47.5°	521.2	510.7	467.2	423.8	402.7
50°	475.1	465.9	426.4	383.0	360.6
52.5°	437.0	422.5	384.3	340.9	322.5
55°	392.2	380.4	344.8	304.0	288.2
57.5°	351.4	339.6	306.7	268.5	255.3
60°	313.2	296.1	268.5	235.6	225.1
62.5°	271.1	258.0	234.3	206.6	219.8
65°	233.0	219.8	198.7	202.7	168.5
67.5°	190.8	184.3	165.8	147.4	142.1
70°	155.3	147.4	140.8	121.1	115.8
72.5°	123.7	115.8	106.6	96.1	92.1
75°	93.4	86.9	81.6	77.7	85.6
77.5°	64.5	61.9	57.9	54.0	52.6
80°	42.1	40.8	39.5	38.2	36.9
82.5°	25.0	25.0	25.0	25.0	25.0
85°	13.2	14.5	15.8	17.1	18.4
87.5°	7.9	7.9	9.2	10.5	11.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)