

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: P561240

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-82-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561240
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-82-88-EDD-90
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2213.0 lumens
Efficiency: N/A
Efficacy: 66.5 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

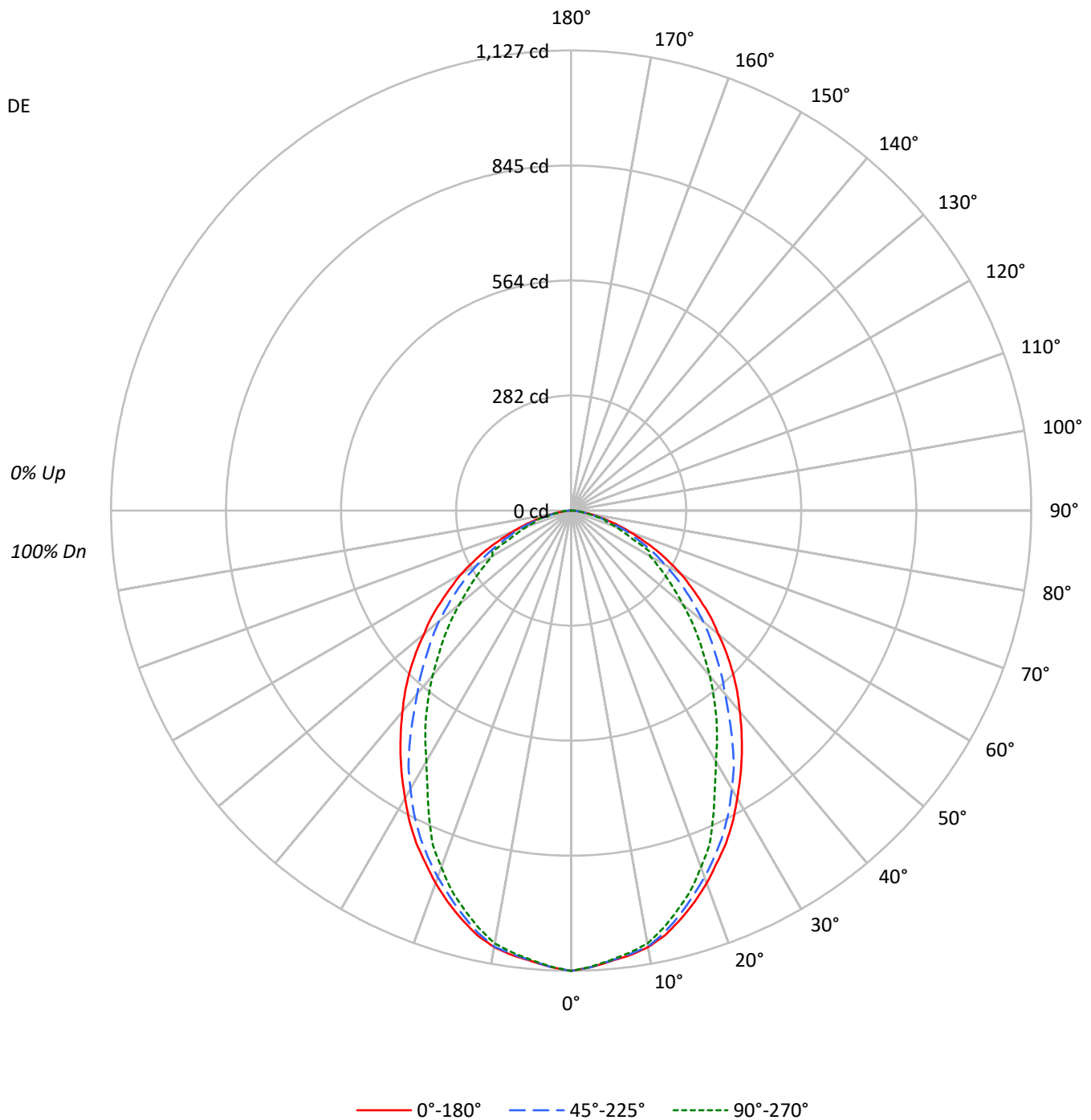
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	3034	3034	3034
5°	2992	2989	2985
10°	2966	2963	2941
15°	2886	2857	2817
20°	2780	2735	2661
25°	2666	2608	2445
30°	2527	2446	2203
35°	2393	2260	2038
40°	2257	2060	1854
45°	2128	1904	1676
50°	1970	1768	1495
55°	1822	1602	1339
60°	1669	1431	1199
65°	1469	1253	1062
70°	1210	1097	902
75°	962	840	881
80°	646	606	566
85°	401	482	562

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2128 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.9	4.7
10°-20°	288.0	13.0
20°-30°	398.7	18.0
30°-40°	425.1	19.2
40°-50°	387.8	17.5
50°-60°	303.8	13.7
60°-70°	198.0	8.9
70°-80°	87.7	4.0
80°-90°	18.8	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°	791.6	35.8
0°-40°	1216.7	55.0
0°-60°	1908.4	86.2
0°-90°	2213.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2213.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1127	1127	1127	1127	1127	
5°	1108	1106	1106	1105	1105	105
15°	1036	1036	1026	1015	1011	291
25°	898	893	878	847	824	412
35°	728	723	688	636	620	455
45°	559	547	500	459	440	431
55°	388	377	341	301	285	348
65°	231	218	197	201	167	227
75°	92	86	81	77	85	99
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°	1127.3	1127.3	1127.3	1127.3	1127.3
2.5°	1119.5	1119.5	1119.5	1118.2	1118.2
5°	1107.7	1106.4	1106.4	1105.1	1105.1
7.5°	1098.6	1097.3	1096.0	1094.7	1092.1
10°	1085.6	1085.6	1084.3	1077.8	1076.4
12.5°	1064.7	1063.4	1058.2	1049.1	1046.5
15°	1036.0	1036.0	1025.6	1015.2	1011.3
17.5°	1004.8	1003.5	990.4	980.0	974.8
20°	970.9	968.3	955.2	938.3	929.2
22.5°	933.1	933.1	917.5	895.3	886.2
25°	897.9	892.7	878.4	847.1	823.6
27.5°	857.5	849.7	834.1	789.7	762.4
30°	813.2	809.3	787.1	729.8	708.9
32.5°	771.5	765.0	741.5	681.6	664.6
35°	728.5	723.3	688.1	636.0	620.3
37.5°	685.5	679.0	634.7	593.0	573.4
40°	642.5	634.7	586.4	548.6	527.8
42.5°	602.1	591.7	544.7	504.3	480.9
45°	559.1	547.3	500.4	458.7	440.5
47.5°	516.1	505.6	462.6	419.6	398.8
50°	470.5	461.3	422.2	379.2	357.1
52.5°	432.7	418.3	380.5	337.5	319.3
55°	388.4	376.6	341.4	301.0	285.4
57.5°	348.0	336.2	303.6	265.9	252.8
60°	310.2	293.2	265.9	233.3	222.8
62.5°	268.5	255.4	232.0	204.6	217.6
65°	230.7	217.6	196.8	200.7	166.8
67.5°	189.0	182.4	164.2	146.0	140.7
70°	153.8	146.0	139.4	119.9	114.7
72.5°	122.5	114.7	105.6	95.1	91.2
75°	92.5	86.0	80.8	76.9	84.7
77.5°	63.9	61.3	57.3	53.4	52.1
80°	41.7	40.4	39.1	37.8	36.5
82.5°	24.8	24.8	24.8	24.8	24.8
85°	13.0	14.3	15.6	16.9	18.2
87.5°	7.8	7.8	9.1	10.4	11.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)