

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: P560644

Luminaire Tested: FSR-12-2-LD4-2STD-40-UNV-81-86-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560644
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-12-2-LD4-2STD-40-UNV-81-86-EDD-90
Description: 1X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2383.0 lumens
Efficiency: N/A
Efficacy: 71.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

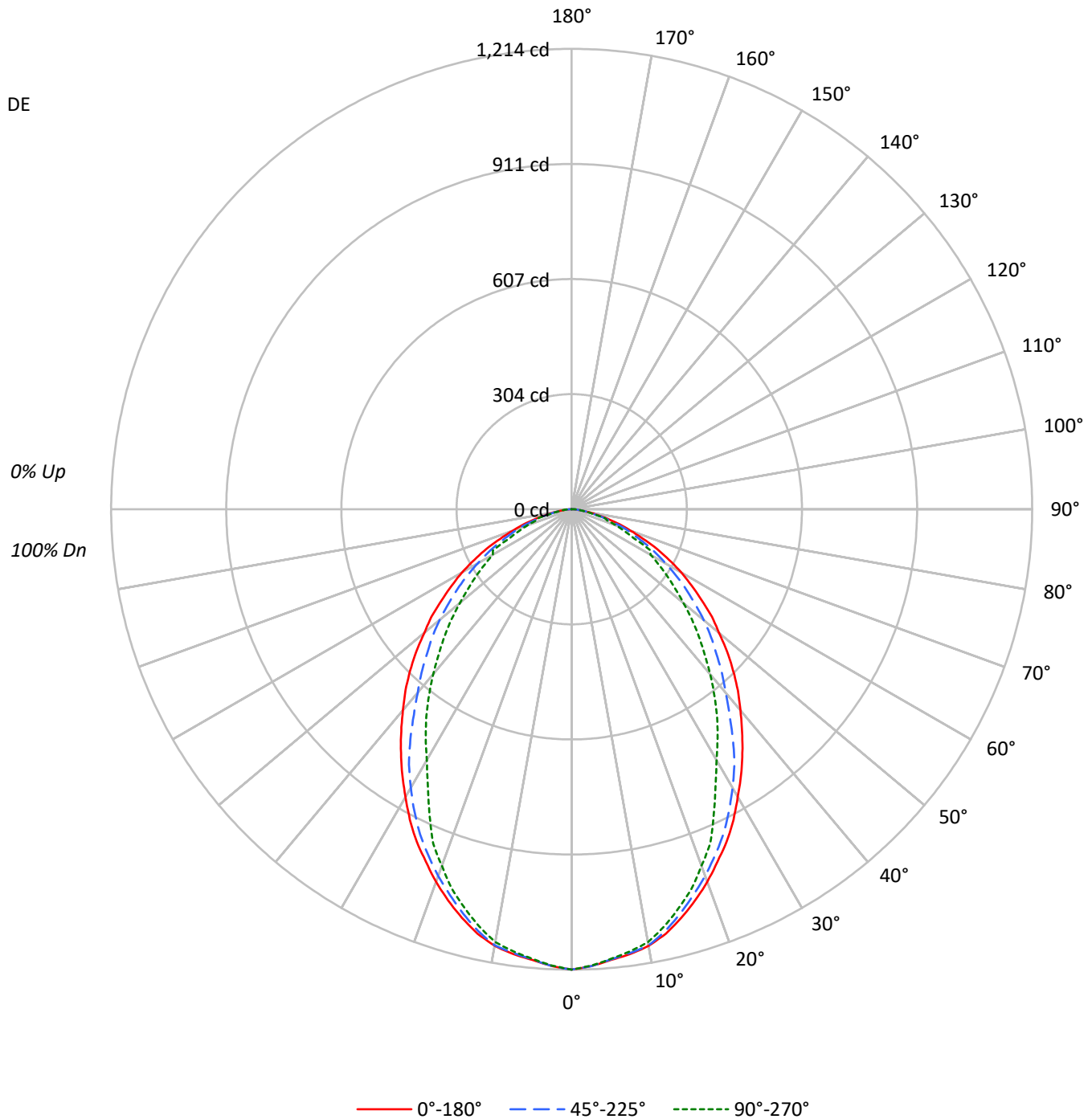
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6533	6533	6533
5°	6444	6437	6429
10°	6389	6381	6334
15°	6216	6154	6068
20°	5988	5891	5731
25°	5742	5616	5267
30°	5442	5267	4744
35°	5154	4868	4389
40°	4860	4437	3993
45°	4582	4102	3610
50°	4242	3807	3219
55°	3924	3450	2883
60°	3595	3082	2583
65°	3163	2699	2287
70°	2606	2364	1943
75°	2071	1809	1896
80°	1392	1305	1218
85°	865	1037	1210

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4582 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.0	4.7
10°-20°	310.1	13.0
20°-30°	429.3	18.0
30°-40°	457.8	19.2
40°-50°	417.6	17.5
50°-60°	327.2	13.7
60°-70°	213.2	8.9
70°-80°	94.5	4.0
80°-90°	20.3	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°	852.4	35.8
0°-40°	1310.2	55.0
0°-60°	2055.0	86.2
0°-90°	2383.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2383.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1214	1214	1214	1214	1214	
5°	1193	1191	1191	1190	1190	113
15°	1116	1116	1104	1093	1089	314
25°	967	961	946	912	887	444
35°	784	779	741	685	668	490
45°	602	589	539	494	474	464
55°	418	406	368	324	307	375
65°	248	234	212	216	180	245
75°	100	93	87	83	91	107
85°	14	15	17	18	20	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1213.9	1213.9	1213.9	1213.9	1213.9
2.5°	1205.4	1205.4	1205.4	1204.0	1204.0
5°	1192.8	1191.4	1191.4	1190.0	1190.0
7.5°	1183.0	1181.6	1180.2	1178.8	1176.0
10°	1169.0	1169.0	1167.6	1160.5	1159.1
12.5°	1146.5	1145.1	1139.5	1129.7	1126.9
15°	1115.6	1115.6	1104.4	1093.2	1089.0
17.5°	1082.0	1080.6	1066.5	1055.3	1049.7
20°	1045.5	1042.7	1028.6	1010.4	1000.6
22.5°	1004.8	1004.8	987.9	964.1	954.3
25°	966.9	961.3	945.8	912.2	886.9
27.5°	923.4	915.0	898.1	850.4	820.9
30°	875.7	871.5	847.6	785.9	763.4
32.5°	830.8	823.7	798.5	733.9	715.7
35°	784.5	778.8	741.0	684.8	668.0
37.5°	738.1	731.1	683.4	638.5	617.5
40°	691.8	683.4	631.5	590.8	568.3
42.5°	648.3	637.1	586.6	543.1	517.8
45°	602.0	589.4	538.9	494.0	474.3
47.5°	555.7	544.5	498.2	451.9	429.4
50°	506.6	496.8	454.7	408.4	384.5
52.5°	465.9	450.5	409.8	363.5	343.8
55°	418.2	405.6	367.7	324.2	307.3
57.5°	374.7	362.1	327.0	286.3	272.2
60°	334.0	315.7	286.3	251.2	240.0
62.5°	289.1	275.0	249.8	220.3	234.4
65°	248.4	234.4	211.9	216.1	179.6
67.5°	203.5	196.5	176.8	157.2	151.6
70°	165.6	157.2	150.2	129.1	123.5
72.5°	131.9	123.5	113.7	102.4	98.2
75°	99.6	92.6	87.0	82.8	91.2
77.5°	68.8	66.0	61.7	57.5	56.1
80°	44.9	43.5	42.1	40.7	39.3
82.5°	26.7	26.7	26.7	26.7	26.7
85°	14.0	15.4	16.8	18.2	19.6
87.5°	8.4	8.4	9.8	11.2	12.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)