

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: P560680

Luminaire Tested: FSR-12-2-LD4-2STD-40-UNV-93-88-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560680
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-93-88-EDD-90
Description: 1X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2190.0 lumens
Efficiency: N/A
Efficacy: 65.8 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

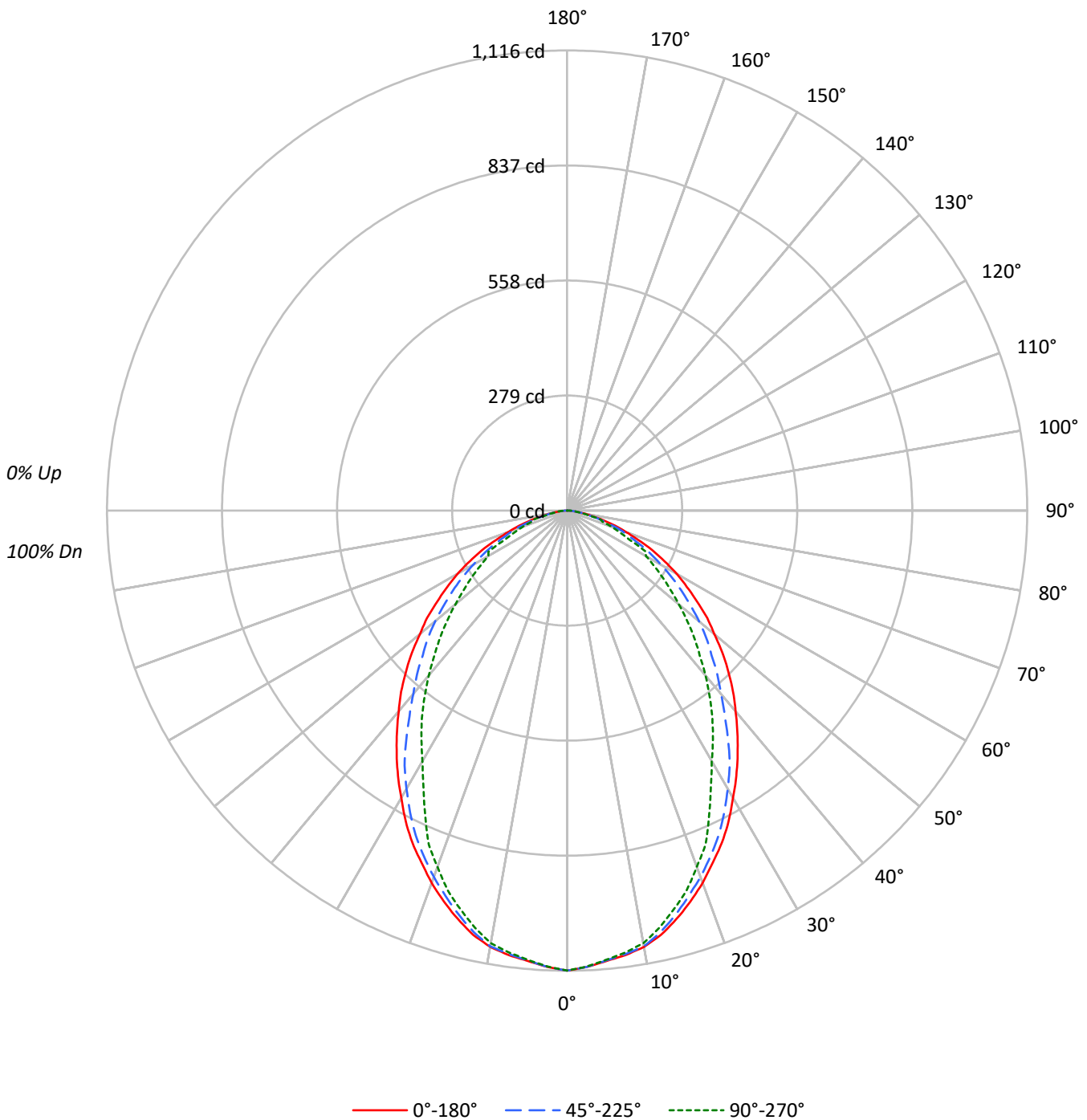
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	6004	6004	6004
5°	5922	5915	5908
10°	5871	5864	5822
15°	5713	5655	5576
20°	5503	5414	5266
25°	5277	5162	4840
30°	5001	4841	4360
35°	4736	4474	4033
40°	4467	4077	3669
45°	4211	3769	3318
50°	3898	3499	2959
55°	3606	3171	2650
60°	3303	2832	2373
65°	2907	2479	2103
70°	2395	2172	1786
75°	1905	1664	1743
80°	1280	1199	1119
85°	797	957	1118

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4211 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	103.8	4.7
10°-20°	285.0	13.0
20°-30°	394.6	18.0
30°-40°	420.7	19.2
40°-50°	383.8	17.5
50°-60°	300.7	13.7
60°-70°	196.0	8.9
70°-80°	86.8	4.0
80°-90°	18.6	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°	783.4	35.8
0°-40°	1204.1	55.0
0°-60°	1888.6	86.2
0°-90°	2190.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2190.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1116	1116	1116	1116	1116	
5°	1096	1095	1095	1094	1094	104
15°	1025	1025	1015	1005	1001	288
25°	889	883	869	838	815	408
35°	721	716	681	629	614	451
45°	553	542	495	454	436	426
55°	384	373	338	298	282	345
65°	228	215	195	199	165	225
75°	92	85	80	76	84	98
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°	1115.6	1115.6	1115.6	1115.6	1115.6
2.5°	1107.8	1107.8	1107.8	1106.5	1106.5
5°	1096.2	1094.9	1094.9	1093.6	1093.6
7.5°	1087.2	1085.9	1084.6	1083.3	1080.7
10°	1074.3	1074.3	1073.0	1066.5	1065.3
12.5°	1053.7	1052.4	1047.2	1038.2	1035.6
15°	1025.3	1025.3	1015.0	1004.6	1000.8
17.5°	994.3	993.0	980.1	969.8	964.7
20°	960.8	958.2	945.3	928.6	919.5
22.5°	923.4	923.4	907.9	886.0	877.0
25°	888.6	883.4	869.2	838.3	815.1
27.5°	848.6	840.9	825.4	781.5	754.5
30°	804.7	800.9	779.0	722.2	701.6
32.5°	763.5	757.0	733.8	674.5	657.7
35°	720.9	715.8	680.9	629.4	613.9
37.5°	678.4	671.9	628.1	586.8	567.5
40°	635.8	628.1	580.3	542.9	522.3
42.5°	595.8	585.5	539.1	499.1	475.9
45°	553.3	541.7	495.2	454.0	435.9
47.5°	510.7	500.4	457.8	415.3	394.6
50°	465.6	456.5	417.9	375.3	353.4
52.5°	428.2	414.0	376.6	334.0	316.0
55°	384.3	372.7	337.9	297.9	282.4
57.5°	344.3	332.7	300.5	263.1	250.2
60°	306.9	290.2	263.1	230.8	220.5
62.5°	265.7	252.8	229.6	202.5	215.4
65°	228.3	215.4	194.7	198.6	165.1
67.5°	187.0	180.6	162.5	144.4	139.3
70°	152.2	144.4	138.0	118.6	113.5
72.5°	121.2	113.5	104.5	94.1	90.3
75°	91.6	85.1	80.0	76.1	83.8
77.5°	63.2	60.6	56.7	52.9	51.6
80°	41.3	40.0	38.7	37.4	36.1
82.5°	24.5	24.5	24.5	24.5	24.5
85°	12.9	14.2	15.5	16.8	18.1
87.5°	7.7	7.7	9.0	10.3	11.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)