

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: P563146

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-81-94-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563146
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-24-4-LD4-3HI-40-UNV-81-94-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11604.0 lumens
Efficiency: N/A
Efficacy: 89.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

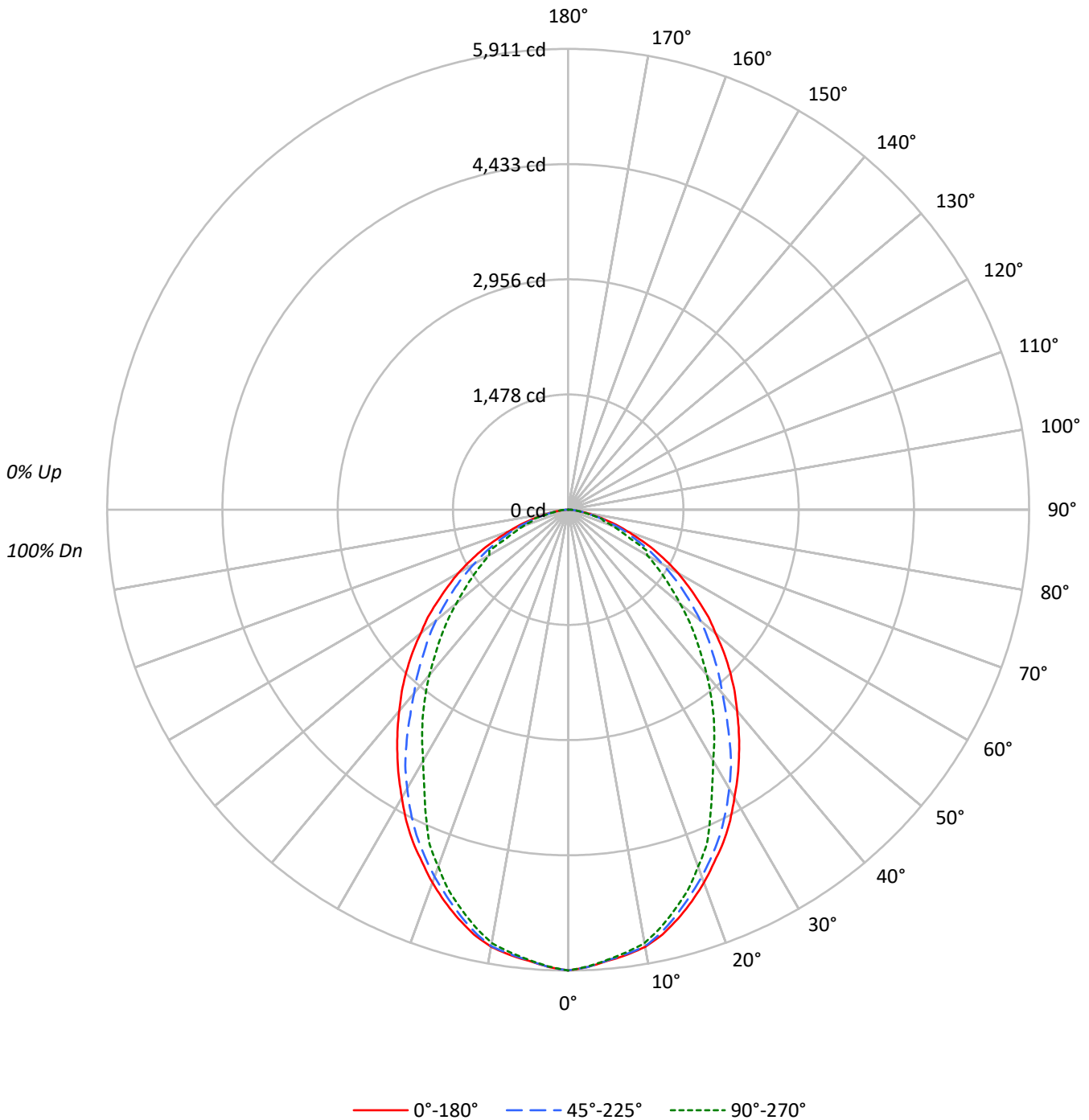
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	7953	7953	7953
5°	7845	7836	7827
10°	7777	7768	7712
15°	7567	7491	7386
20°	7289	7172	6976
25°	6990	6838	6411
30°	6625	6412	5775
35°	6274	5926	5343
40°	5917	5401	4861
45°	5578	4993	4395
50°	5164	4634	3919
55°	4777	4200	3510
60°	4377	3751	3144
65°	3851	3285	2785
70°	3172	2877	2365
75°	2522	2203	2309
80°	1695	1588	1482
85°	1054	1266	1477

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5578 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	550.2	4.7
10°-20°	1510.0	13.0
20°-30°	2090.6	18.0
30°-40°	2229.2	19.2
40°-50°	2033.6	17.5
50°-60°	1593.2	13.7
60°-70°	1038.4	8.9
70°-80°	460.0	4.0
80°-90°	98.8	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°	4150.8	35.8
0°-40°	6380.0	55.0
0°-60°	10006.8	86.2
0°-90°	11604.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11604.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5911	5911	5911	5911	5911	
5°	5808	5802	5802	5795	5795	551
15°	5433	5433	5378	5323	5303	1527
25°	4708	4681	4606	4442	4319	2162
35°	3820	3793	3608	3335	3253	2388
45°	2932	2870	2624	2405	2310	2258
55°	2036	1975	1790	1578	1496	1826
65°	1210	1141	1032	1052	875	1192
75°	485	451	424	403	444	520
85°	68	75	82	89	96	95
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5910.9	5910.9	5910.9	5910.9	5910.9
2.5°	5869.9	5869.9	5869.9	5863.1	5863.1
5°	5808.4	5801.6	5801.6	5794.8	5794.8
7.5°	5760.6	5753.8	5746.9	5740.1	5726.4
10°	5692.3	5692.3	5685.4	5651.3	5644.4
12.5°	5582.9	5576.1	5548.8	5500.9	5487.2
15°	5432.6	5432.6	5377.9	5323.2	5302.7
17.5°	5268.6	5261.7	5193.4	5138.7	5111.4
20°	5090.9	5077.2	5008.9	4920.1	4872.2
22.5°	4892.7	4892.7	4810.7	4694.6	4646.7
25°	4708.2	4680.9	4605.7	4441.7	4318.7
27.5°	4496.4	4455.4	4373.4	4141.1	3997.6
30°	4264.1	4243.6	4127.4	3826.7	3717.4
32.5°	4045.4	4011.2	3888.2	3573.9	3485.1
35°	3819.9	3792.6	3608.1	3334.7	3252.7
37.5°	3594.4	3560.2	3327.9	3109.2	3006.7
40°	3368.9	3327.9	3075.0	2876.9	2767.5
42.5°	3157.0	3102.4	2856.4	2644.5	2521.5
45°	2931.5	2870.0	2624.0	2405.4	2309.7
47.5°	2706.0	2651.4	2425.9	2200.4	2091.0
50°	2466.9	2419.0	2214.0	1988.5	1872.4
52.5°	2268.7	2193.5	1995.4	1769.9	1674.2
55°	2036.4	1974.9	1790.4	1578.5	1496.5
57.5°	1824.5	1763.0	1592.2	1394.0	1325.7
60°	1626.4	1537.5	1394.0	1223.2	1168.5
62.5°	1407.7	1339.4	1216.4	1072.8	1141.2
65°	1209.5	1141.2	1031.8	1052.3	874.7
67.5°	990.8	956.7	861.0	765.3	738.0
70°	806.3	765.3	731.2	628.7	601.3
72.5°	642.3	601.3	553.5	498.8	478.3
75°	485.2	451.0	423.7	403.2	444.2
77.5°	334.8	321.2	300.7	280.2	273.3
80°	218.7	211.8	205.0	198.2	191.3
82.5°	129.8	129.8	129.8	129.8	129.8
85°	68.3	75.2	82.0	88.8	95.7
87.5°	41.0	41.0	47.8	54.7	61.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)