

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: P563137

Luminaire Tested: FSR-24-4-LD4-3HI-40-UNV-81-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563137
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-81-84-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13778.0 lumens
Efficiency: N/A
Efficacy: 106.3 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

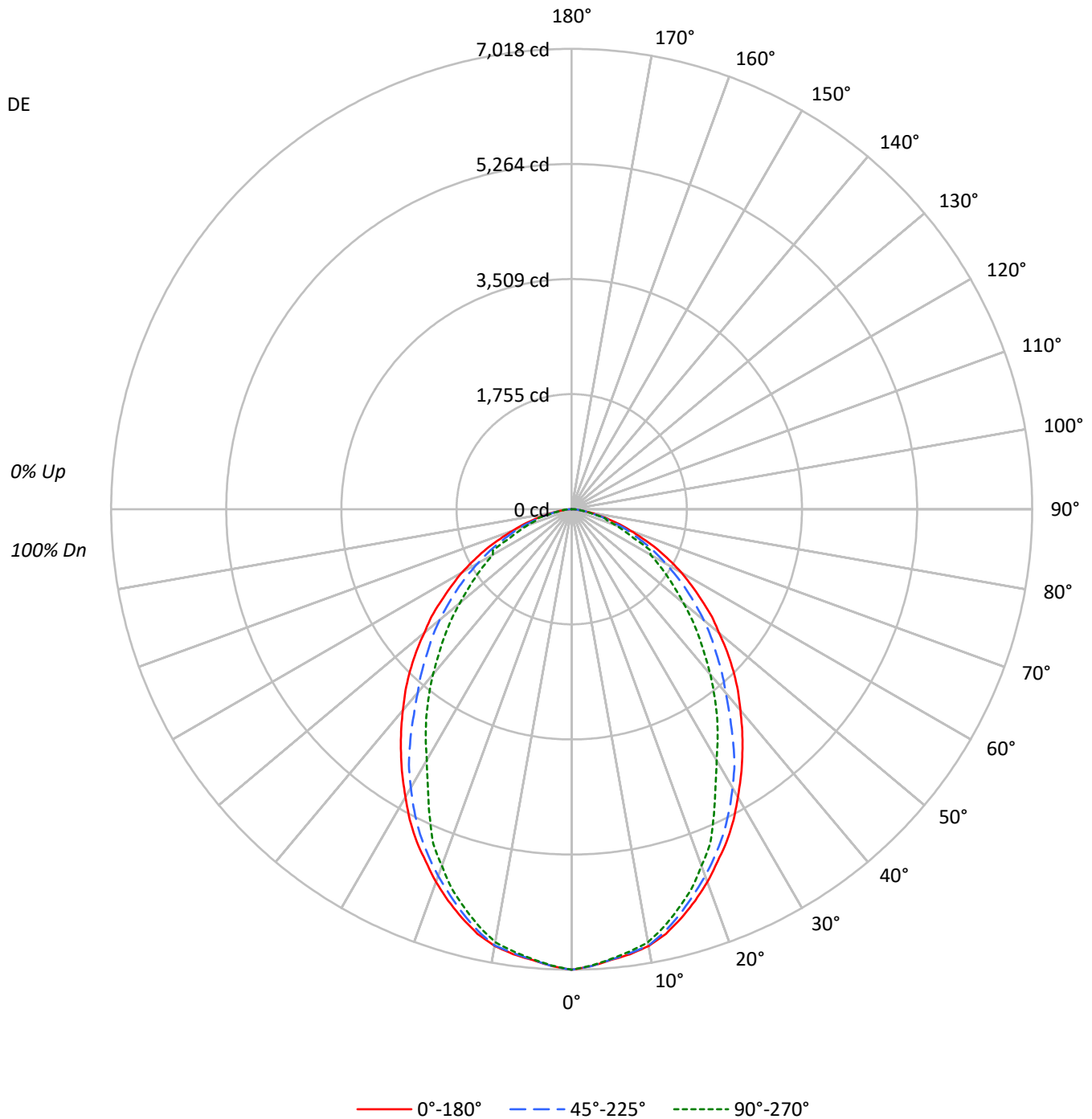
Input Watts (W): 129.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	9443	9443	9443
5°	9315	9304	9293
10°	9234	9223	9156
15°	8985	8895	8770
20°	8655	8516	8283
25°	8299	8119	7613
30°	7866	7614	6857
35°	7450	7037	6344
40°	7026	6413	5772
45°	6623	5929	5218
50°	6131	5503	4653
55°	5672	4987	4168
60°	5197	4454	3733
65°	4572	3901	3307
70°	3766	3415	2809
75°	2995	2615	2742
80°	2011	1886	1760
85°	1252	1504	1754

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6623 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	653.3	4.7
10°-20°	1793.0	13.0
20°-30°	2482.2	18.0
30°-40°	2646.8	19.2
40°-50°	2414.6	17.5
50°-60°	1891.7	13.7
60°-70°	1232.9	8.9
70°-80°	546.2	4.0
80°-90°	117.3	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°	4928.5	35.8
0°-40°	7575.3	55.0
0°-60°	11881.6	86.2
0°-90°	13778.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	13778.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7018	7018	7018	7018	7018	
5°	6897	6888	6888	6880	6880	655
15°	6450	6450	6386	6321	6296	1813
25°	5590	5558	5469	5274	5128	2567
35°	4536	4503	4284	3960	3862	2836
45°	3481	3408	3116	2856	2742	2681
55°	2418	2345	2126	1874	1777	2169
65°	1436	1355	1225	1250	1039	1415
75°	576	536	503	479	527	617
85°	81	89	97	106	114	113
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7018.3	7018.3	7018.3	7018.3	7018.3
2.5°	6969.6	6969.6	6969.6	6961.5	6961.5
5°	6896.6	6888.5	6888.5	6880.4	6880.4
7.5°	6839.8	6831.7	6823.6	6815.5	6799.3
10°	6758.7	6758.7	6750.6	6710.0	6701.9
12.5°	6628.9	6620.8	6588.3	6531.5	6515.3
15°	6450.4	6450.4	6385.5	6320.6	6296.2
17.5°	6255.6	6247.5	6166.4	6101.5	6069.0
20°	6044.7	6028.5	5947.3	5841.8	5785.1
22.5°	5809.4	5809.4	5712.0	5574.1	5517.3
25°	5590.3	5557.9	5468.6	5273.9	5127.8
27.5°	5338.8	5290.1	5192.8	4916.9	4746.5
30°	5062.9	5038.6	4900.7	4543.7	4413.8
32.5°	4803.3	4762.7	4616.7	4243.5	4138.0
35°	4535.5	4503.1	4284.0	3959.5	3862.1
37.5°	4267.8	4227.2	3951.4	3691.7	3570.0
40°	4000.0	3951.4	3651.2	3415.9	3286.0
42.5°	3748.5	3683.6	3391.5	3140.0	2993.9
45°	3480.8	3407.7	3115.7	2856.0	2742.4
47.5°	3213.0	3148.1	2880.4	2612.6	2482.8
50°	2929.0	2872.2	2628.8	2361.1	2223.1
52.5°	2693.7	2604.5	2369.2	2101.4	1987.9
55°	2417.9	2344.9	2125.8	1874.3	1776.9
57.5°	2166.4	2093.3	1890.5	1655.2	1574.1
60°	1931.1	1825.6	1655.2	1452.3	1387.4
62.5°	1671.4	1590.3	1444.2	1273.8	1355.0
65°	1436.1	1355.0	1225.2	1249.5	1038.6
67.5°	1176.5	1135.9	1022.3	908.7	876.3
70°	957.4	908.7	868.2	746.5	714.0
72.5°	762.7	714.0	657.2	592.3	568.0
75°	576.1	535.5	503.0	478.7	527.4
77.5°	397.6	381.3	357.0	332.7	324.5
80°	259.6	251.5	243.4	235.3	227.2
82.5°	154.2	154.2	154.2	154.2	154.2
85°	81.1	89.3	97.4	105.5	113.6
87.5°	48.7	48.7	56.8	64.9	73.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)