

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: P563653

Luminaire Tested: FSR-24-4-LD4-4HI-35-UNV-81-86-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563653
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-LD4-4HI-35-UNV-81-86-EDD
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 17626.0 lumens
Efficiency: N/A
Efficacy: 102.0 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

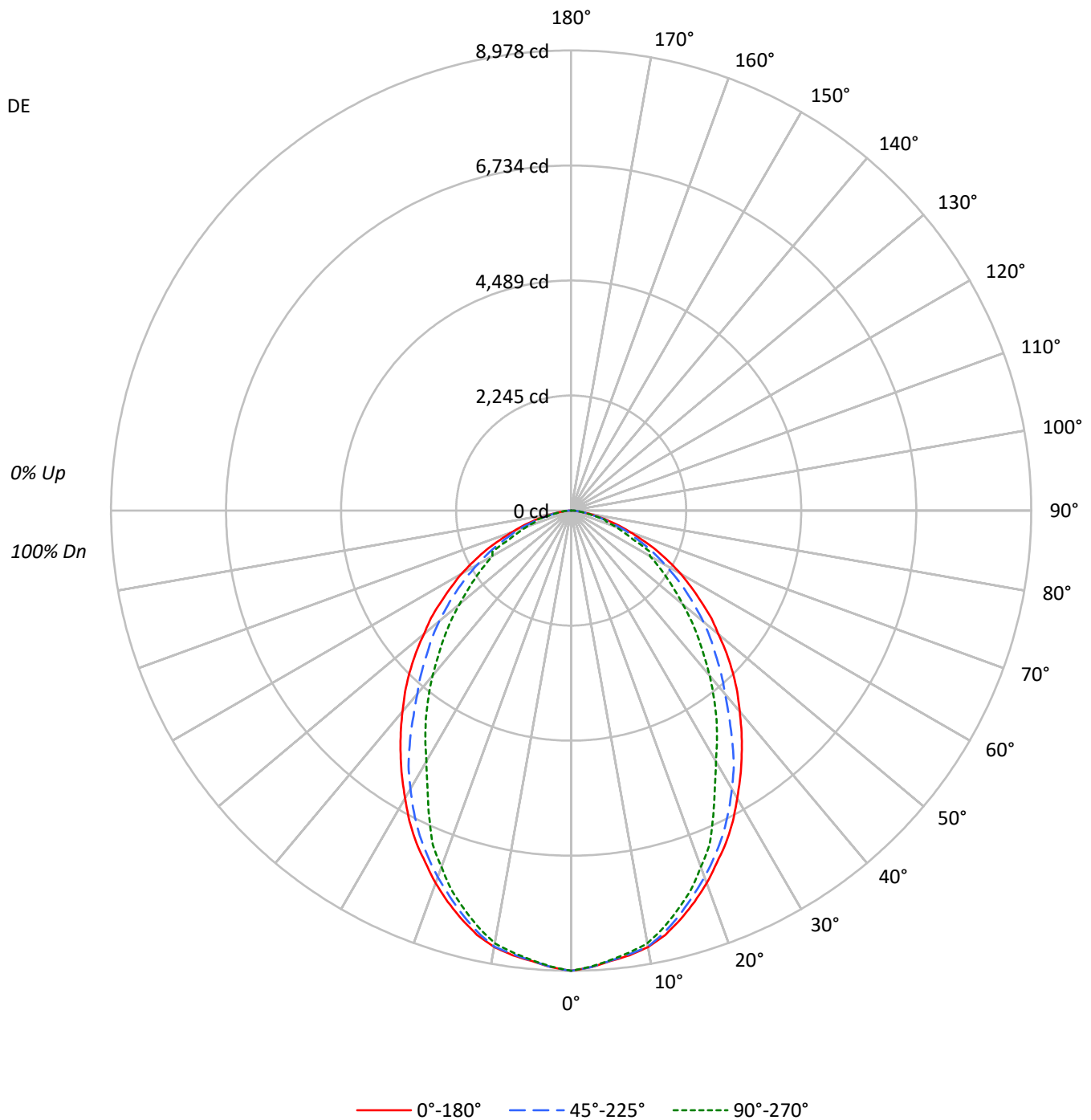
Input Watts (W): 172.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	12080	12080	12080
5°	11916	11902	11888
10°	11813	11799	11714
15°	11495	11379	11220
20°	11072	10894	10597
25°	10617	10386	9739
30°	10063	9740	8773
35°	9531	9002	8115
40°	8988	8204	7384
45°	8473	7584	6676
50°	7843	7039	5953
55°	7256	6379	5332
60°	6648	5698	4776
65°	5849	4990	4230
70°	4818	4369	3593
75°	3831	3345	3507
80°	2574	2413	2252
85°	1602	1924	2243

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8473 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	835.8	4.7
10°-20°	2293.7	13.0
20°-30°	3175.5	18.0
30°-40°	3386.0	19.2
40°-50°	3089.0	17.5
50°-60°	2420.0	13.7
60°-70°	1577.2	8.9
70°-80°	698.8	4.0
80°-90°	150.0	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°	6305.0	35.8
0°-40°	9691.0	55.0
0°-60°	15200.0	86.2
0°-90°	17626.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	17626.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8978	8978	8978	8978	8978	
5°	8823	8812	8812	8802	8802	837
15°	8252	8252	8169	8086	8055	2320
25°	7152	7110	6996	6747	6560	3283
35°	5802	5761	5480	5065	4941	3627
45°	4453	4360	3986	3654	3508	3430
55°	3093	3000	2720	2398	2273	2774
65°	1837	1733	1567	1598	1329	1811
75°	737	685	644	612	675	790
85°	104	114	125	135	145	144
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8978.4	8978.4	8978.4	8978.4	8978.4
2.5°	8916.2	8916.2	8916.2	8905.8	8905.8
5°	8822.8	8812.4	8812.4	8802.0	8802.0
7.5°	8750.1	8739.7	8729.3	8719.0	8698.2
10°	8646.3	8646.3	8635.9	8584.0	8573.6
12.5°	8480.2	8469.8	8428.3	8355.7	8334.9
15°	8251.9	8251.9	8168.8	8085.8	8054.7
17.5°	8002.8	7992.4	7888.6	7805.5	7764.0
20°	7732.9	7712.1	7608.3	7473.4	7400.7
22.5°	7431.9	7431.9	7307.3	7130.9	7058.2
25°	7151.6	7110.1	6995.9	6746.8	6560.0
27.5°	6829.8	6767.6	6643.0	6290.1	6072.1
30°	6476.9	6445.8	6269.3	5812.6	5646.6
32.5°	6144.8	6092.9	5906.1	5428.6	5293.7
35°	5802.3	5760.7	5480.5	5065.3	4940.7
37.5°	5459.7	5407.8	5054.9	4722.8	4567.1
40°	5117.2	5054.9	4670.9	4369.9	4203.8
42.5°	4795.4	4712.4	4338.7	4016.9	3830.1
45°	4452.9	4359.5	3985.8	3653.7	3508.3
47.5°	4110.4	4027.3	3684.8	3342.3	3176.2
50°	3747.1	3674.4	3363.0	3020.5	2844.0
52.5°	3446.1	3331.9	3030.9	2688.3	2543.0
55°	3093.2	2999.7	2719.5	2397.7	2273.2
57.5°	2771.4	2678.0	2418.5	2117.5	2013.7
60°	2470.4	2335.4	2117.5	1858.0	1774.9
62.5°	2138.2	2034.4	1847.6	1629.6	1733.4
65°	1837.2	1733.4	1567.3	1598.5	1328.6
67.5°	1505.1	1453.2	1307.8	1162.5	1121.0
70°	1224.8	1162.5	1110.6	954.9	913.4
72.5°	975.7	913.4	840.8	757.7	726.6
75°	737.0	685.1	643.5	612.4	674.7
77.5°	508.6	487.8	456.7	425.6	415.2
80°	332.2	321.8	311.4	301.0	290.6
82.5°	197.2	197.2	197.2	197.2	197.2
85°	103.8	114.2	124.6	134.9	145.3
87.5°	62.3	62.3	72.7	83.0	93.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)