

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: P563457

Luminaire Tested: FSR-24-4-LD4-3STD-35-UNV-81-84-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P563457
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-LD4-3STD-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11122.0 lumens
Efficiency: N/A
Efficacy: 111.3 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

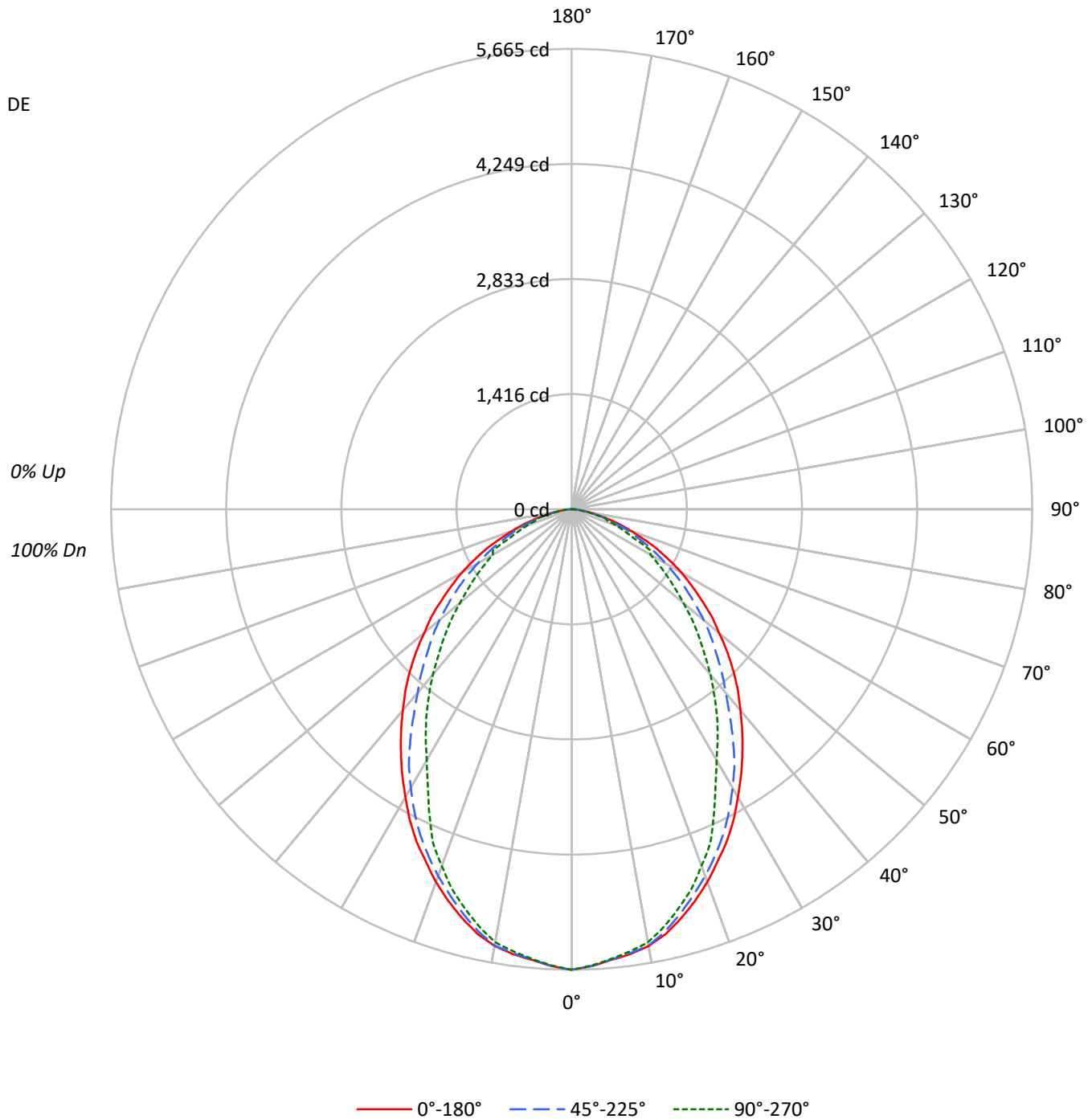
Input Watts (W): 99.9
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7623	7623	7623
5°	7519	7510	7502
10°	7454	7445	7391
15°	7253	7180	7080
20°	6987	6874	6687
25°	6699	6554	6145
30°	6350	6146	5536
35°	6014	5680	5121
40°	5671	5177	4659
45°	5347	4786	4212
50°	4949	4442	3756
55°	4579	4025	3365
60°	4195	3595	3014
65°	3691	3149	2669
70°	3041	2757	2268
75°	2417	2111	2213
80°	1624	1523	1421
85°	1011	1213	1416

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5347 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	527.4	4.7
10°-20°	1447.3	13.0
20°-30°	2003.7	18.0
30°-40°	2136.6	19.2
40°-50°	1949.2	17.5
50°-60°	1527.0	13.7
60°-70°	995.2	8.9
70°-80°	440.9	4.0
80°-90°	94.6	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°	3978.4	35.8
0°-40°	6115.0	55.0
0°-60°	9591.2	86.2
0°-90°	11122.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11122.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	5665	5665	5665	5665	5665	
5°	5567	5561	5561	5554	5554	528
15°	5207	5207	5154	5102	5082	1464
25°	4513	4486	4414	4257	4139	2072
35°	3661	3635	3458	3196	3118	2289
45°	2810	2751	2515	2306	2214	2164
55°	1952	1893	1716	1513	1434	1751
65°	1159	1094	989	1009	838	1142
75°	465	432	406	386	426	498
85°	66	72	79	85	92	91
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	5665.4	5665.4	5665.4	5665.4	5665.4
2.5°	5626.1	5626.1	5626.1	5619.6	5619.6
5°	5567.2	5560.6	5560.6	5554.1	5554.1
7.5°	5521.3	5514.8	5508.2	5501.7	5488.6
10°	5455.8	5455.8	5449.3	5416.5	5410.0
12.5°	5351.0	5344.5	5318.3	5272.4	5259.3
15°	5206.9	5206.9	5154.5	5102.1	5082.5
17.5°	5049.7	5043.2	4977.7	4925.3	4899.1
20°	4879.4	4866.3	4800.9	4715.7	4669.9
22.5°	4689.5	4689.5	4610.9	4499.6	4453.7
25°	4512.7	4486.5	4414.4	4257.2	4139.3
27.5°	4309.6	4270.3	4191.7	3969.1	3831.5
30°	4086.9	4067.3	3956.0	3667.8	3563.0
32.5°	3877.4	3844.6	3726.7	3425.4	3340.3
35°	3661.2	3635.0	3458.2	3196.2	3117.6
37.5°	3445.1	3412.3	3189.7	2980.1	2881.8
40°	3228.9	3189.7	2947.3	2757.4	2652.6
42.5°	3025.9	2973.5	2737.7	2534.7	2416.8
45°	2809.8	2750.8	2515.0	2305.5	2213.8
47.5°	2593.6	2541.2	2325.1	2109.0	2004.2
50°	2364.4	2318.6	2122.1	1905.9	1794.6
52.5°	2174.5	2102.4	1912.5	1696.3	1604.7
55°	1951.8	1892.8	1716.0	1513.0	1434.4
57.5°	1748.7	1689.8	1526.1	1336.1	1270.6
60°	1558.8	1473.7	1336.1	1172.4	1120.0
62.5°	1349.2	1283.7	1165.8	1028.3	1093.8
65°	1159.3	1093.8	989.0	1008.6	838.3
67.5°	949.7	916.9	825.2	733.6	707.4
70°	772.9	733.6	700.8	602.6	576.4
72.5°	615.7	576.4	530.5	478.1	458.5
75°	465.0	432.3	406.1	386.4	425.7
77.5°	320.9	307.8	288.2	268.5	262.0
80°	209.6	203.0	196.5	189.9	183.4
82.5°	124.4	124.4	124.4	124.4	124.4
85°	65.5	72.0	78.6	85.1	91.7
87.5°	39.3	39.3	45.8	52.4	58.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)