

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: P561607

Luminaire Tested: FSR-12-4-LD4-2LO-40-UNV-81-87-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561607
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-12-4-LD4-2LO-40-UNV-81-87-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

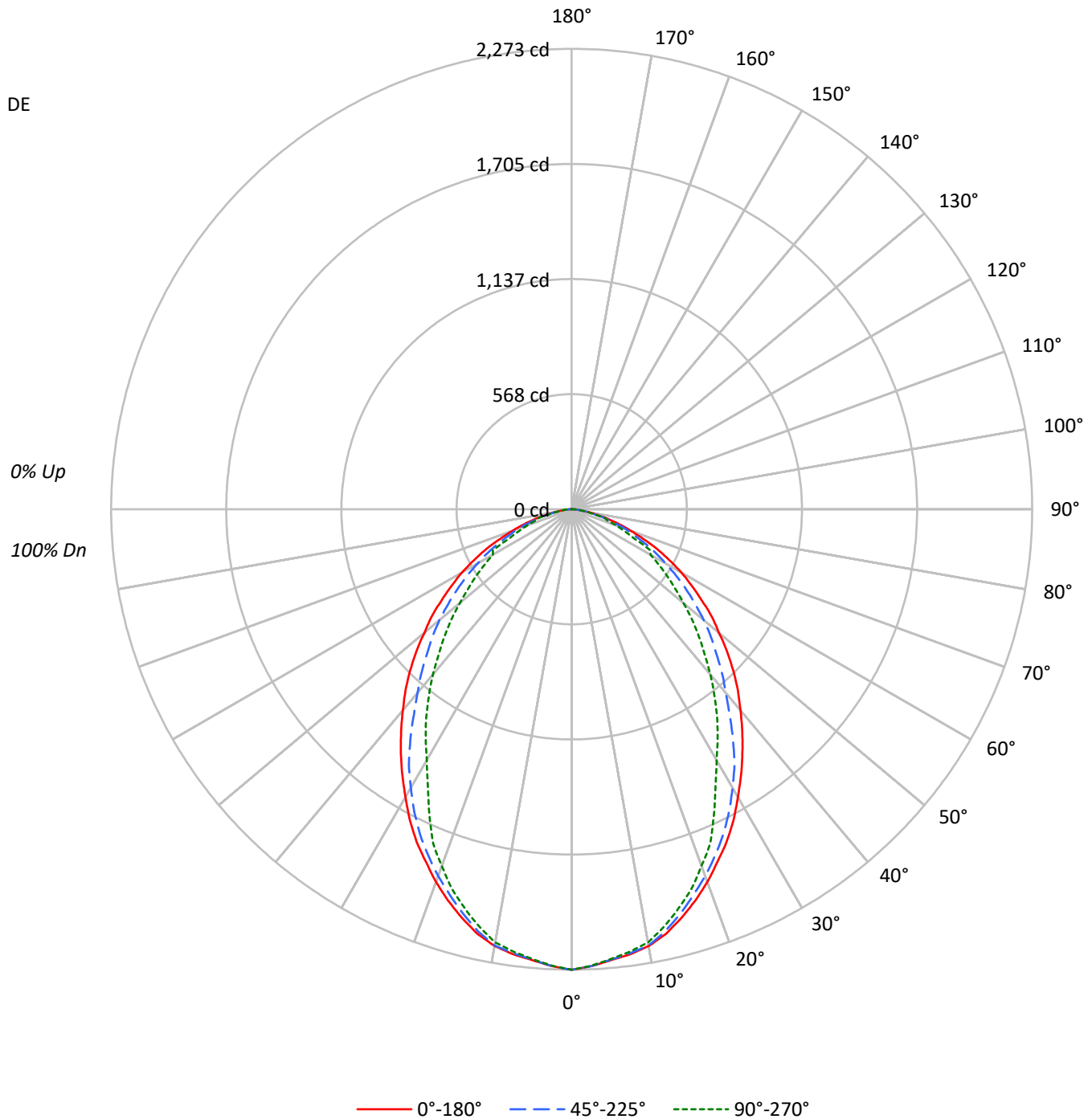
Lumens per Lamp: N/A
Luminaire Lumens: 4463.0 lumens
Efficiency: N/A
Efficacy: 95.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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				
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°	6118	6118	6118
5°	6035	6027	6020
10°	5982	5975	5932
15°	5821	5762	5682
20°	5607	5517	5366
25°	5377	5260	4932
30°	5096	4932	4442
35°	4826	4559	4110
40°	4552	4155	3739
45°	4291	3841	3381
50°	3972	3565	3015
55°	3674	3231	2700
60°	3366	2886	2419
65°	2962	2527	2142
70°	2440	2212	1820
75°	1940	1694	1776
80°	1303	1221	1141
85°	812	973	1136

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4291 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	211.6	4.7
10°-20°	580.8	13.0
20°-30°	804.1	18.0
30°-40°	857.3	19.2
40°-50°	782.1	17.5
50°-60°	612.8	13.7
60°-70°	399.4	8.9
70°-80°	176.9	4.0
80°-90°	38.0	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°	1596.5	35.8
0°-40°	2453.8	55.0
0°-60°	3848.7	86.2
0°-90°	4463.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4463.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2273	2273	2273	2273	2273	
5°	2234	2231	2231	2229	2229	212
15°	2089	2089	2068	2047	2040	587
25°	1811	1800	1771	1708	1661	831
35°	1469	1459	1388	1283	1251	918
45°	1128	1104	1009	925	888	869
55°	783	760	689	607	576	702
65°	465	439	397	405	336	458
75°	187	174	163	155	171	200
85°	26	29	32	34	37	36
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2273.4	2273.4	2273.4	2273.4	2273.4
2.5°	2257.6	2257.6	2257.6	2255.0	2255.0
5°	2234.0	2231.3	2231.3	2228.7	2228.7
7.5°	2215.6	2212.9	2210.3	2207.7	2202.4
10°	2189.3	2189.3	2186.7	2173.5	2170.9
12.5°	2147.2	2144.6	2134.1	2115.7	2110.4
15°	2089.4	2089.4	2068.4	2047.4	2039.5
17.5°	2026.3	2023.7	1997.4	1976.4	1965.9
20°	1958.0	1952.8	1926.5	1892.3	1873.9
22.5°	1881.8	1881.8	1850.3	1805.6	1787.2
25°	1810.8	1800.3	1771.4	1708.3	1661.0
27.5°	1729.4	1713.6	1682.0	1592.7	1537.5
30°	1640.0	1632.1	1587.4	1471.8	1429.7
32.5°	1555.9	1542.8	1495.4	1374.5	1340.4
35°	1469.2	1458.7	1387.7	1282.6	1251.0
37.5°	1382.4	1369.3	1279.9	1195.8	1156.4
40°	1295.7	1279.9	1182.7	1106.5	1064.4
42.5°	1214.2	1193.2	1098.6	1017.1	969.8
45°	1127.5	1103.8	1009.2	925.1	888.3
47.5°	1040.8	1019.7	933.0	846.3	804.2
50°	948.8	930.4	851.5	764.8	720.1
52.5°	872.6	843.7	767.4	680.7	643.9
55°	783.2	759.5	688.6	607.1	575.6
57.5°	701.7	678.1	612.4	536.2	509.9
60°	625.5	591.3	536.2	470.4	449.4
62.5°	541.4	515.1	467.8	412.6	438.9
65°	465.2	438.9	396.9	404.7	336.4
67.5°	381.1	367.9	331.2	294.4	283.8
70°	310.1	294.4	281.2	241.8	231.3
72.5°	247.1	231.3	212.9	191.9	184.0
75°	186.6	173.5	162.9	155.1	170.8
77.5°	128.8	123.5	115.6	107.8	105.1
80°	84.1	81.5	78.8	76.2	73.6
82.5°	49.9	49.9	49.9	49.9	49.9
85°	26.3	28.9	31.5	34.2	36.8
87.5°	15.8	15.8	18.4	21.0	23.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)