

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: P562329

Luminaire Tested: FSR-24-4-LD4-1STD-35-UNV-82-88-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562329
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-LD4-1STD-35-UNV-82-88-EDD
Description: 2X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3064.0 lumens
Efficiency: N/A
Efficacy: 92.0 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

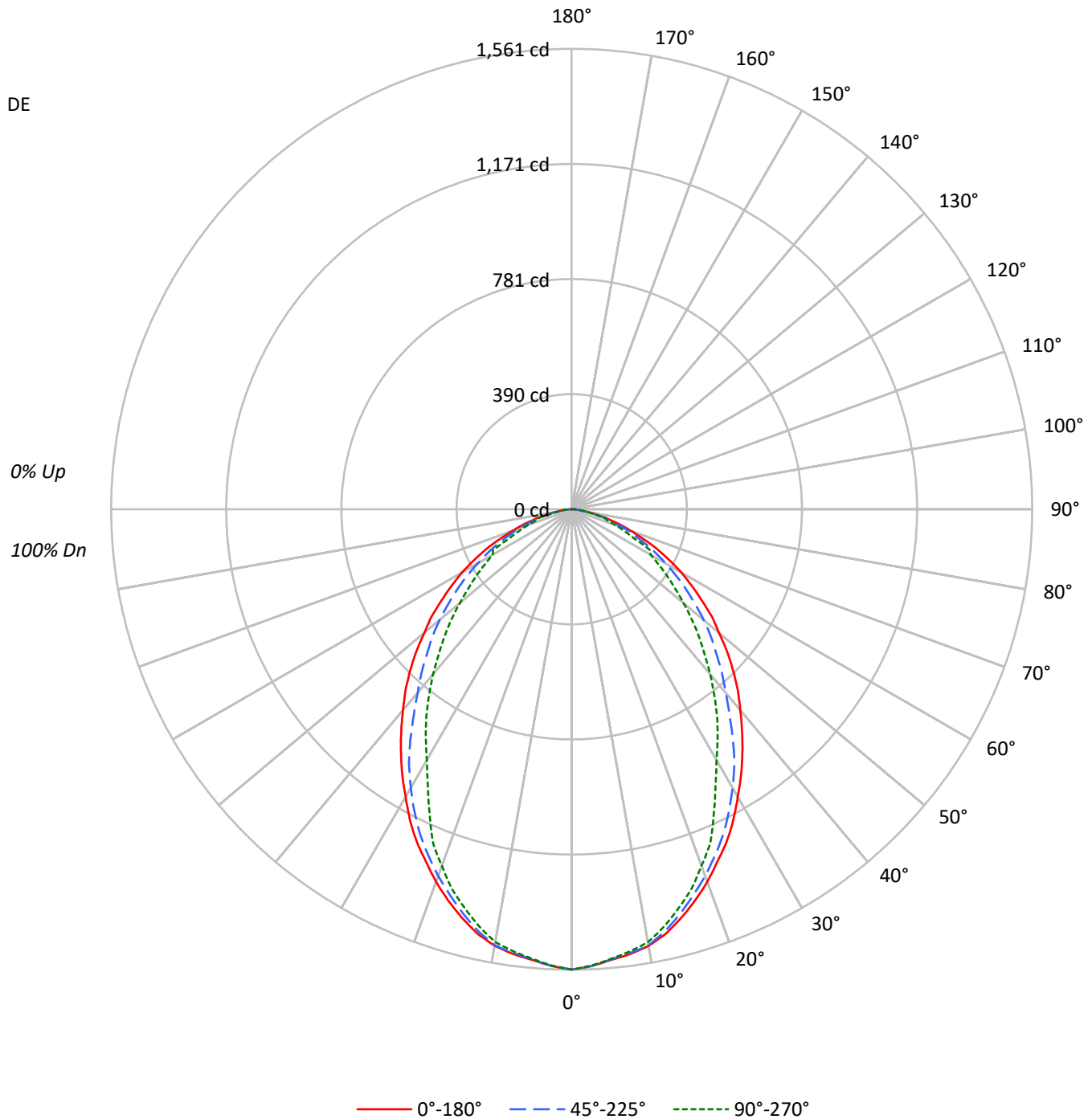
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	2100	2100	2100
5°	2071	2069	2067
10°	2053	2051	2036
15°	1998	1978	1950
20°	1925	1894	1842
25°	1846	1805	1693
30°	1749	1693	1525
35°	1657	1565	1411
40°	1562	1426	1284
45°	1473	1318	1161
50°	1364	1224	1035
55°	1261	1109	927
60°	1156	991	830
65°	1017	868	735
70°	838	760	625
75°	666	582	610
80°	447	419	391
85°	278	335	391

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1473 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	145.3	4.7
10°-20°	398.7	13.0
20°-30°	552.0	18.0
30°-40°	588.6	19.2
40°-50°	537.0	17.5
50°-60°	420.7	13.7
60°-70°	274.2	8.9
70°-80°	121.5	4.0
80°-90°	26.1	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°	1096.0	35.8
0°-40°	1684.6	55.0
0°-60°	2642.3	86.2
0°-90°	3064.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3064.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1561	1561	1561	1561	1561	
5°	1534	1532	1532	1530	1530	146
15°	1434	1434	1420	1406	1400	403
25°	1243	1236	1216	1173	1140	571
35°	1009	1001	953	880	859	631
45°	774	758	693	635	610	596
55°	538	522	473	417	395	482
65°	319	301	272	278	231	315
75°	128	119	112	106	117	137
85°	18	20	22	24	25	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1560.8	1560.8	1560.8	1560.8	1560.8
2.5°	1549.9	1549.9	1549.9	1548.1	1548.1
5°	1533.7	1531.9	1531.9	1530.1	1530.1
7.5°	1521.1	1519.3	1517.5	1515.7	1512.0
10°	1503.0	1503.0	1501.2	1492.2	1490.4
12.5°	1474.2	1472.3	1465.1	1452.5	1448.9
15°	1434.5	1434.5	1420.0	1405.6	1400.2
17.5°	1391.2	1389.3	1371.3	1356.9	1349.7
20°	1344.2	1340.6	1322.6	1299.1	1286.5
22.5°	1291.9	1291.9	1270.3	1239.6	1227.0
25°	1243.2	1236.0	1216.1	1172.8	1140.3
27.5°	1187.3	1176.4	1154.8	1093.4	1055.5
30°	1125.9	1120.5	1089.8	1010.4	981.6
32.5°	1068.2	1059.2	1026.7	943.7	920.2
35°	1008.6	1001.4	952.7	880.5	858.9
37.5°	949.1	940.1	878.7	821.0	793.9
40°	889.5	878.7	812.0	759.6	730.8
42.5°	833.6	819.2	754.2	698.3	665.8
45°	774.1	757.8	692.9	635.1	609.9
47.5°	714.5	700.1	640.5	581.0	552.1
50°	651.4	638.7	584.6	525.1	494.4
52.5°	599.0	579.2	526.9	467.3	442.1
55°	537.7	521.5	472.7	416.8	395.2
57.5°	481.8	465.5	420.4	368.1	350.0
60°	429.4	406.0	368.1	323.0	308.5
62.5°	371.7	353.7	321.2	283.3	301.3
65°	319.4	301.3	272.5	277.9	231.0
67.5°	261.6	252.6	227.3	202.1	194.9
70°	212.9	202.1	193.1	166.0	158.8
72.5°	169.6	158.8	146.2	131.7	126.3
75°	128.1	119.1	111.9	106.5	117.3
77.5°	88.4	84.8	79.4	74.0	72.2
80°	57.7	55.9	54.1	52.3	50.5
82.5°	34.3	34.3	34.3	34.3	34.3
85°	18.0	19.8	21.7	23.5	25.3
87.5°	10.8	10.8	12.6	14.4	16.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)