

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: P562306

Luminaire Tested: FSR-24-4-LD4-1STD-35-UNV-81-85-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P562306
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-81-85-EDD-90
Description: 2X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3040.0 lumens
Efficiency: N/A
Efficacy: 91.3 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

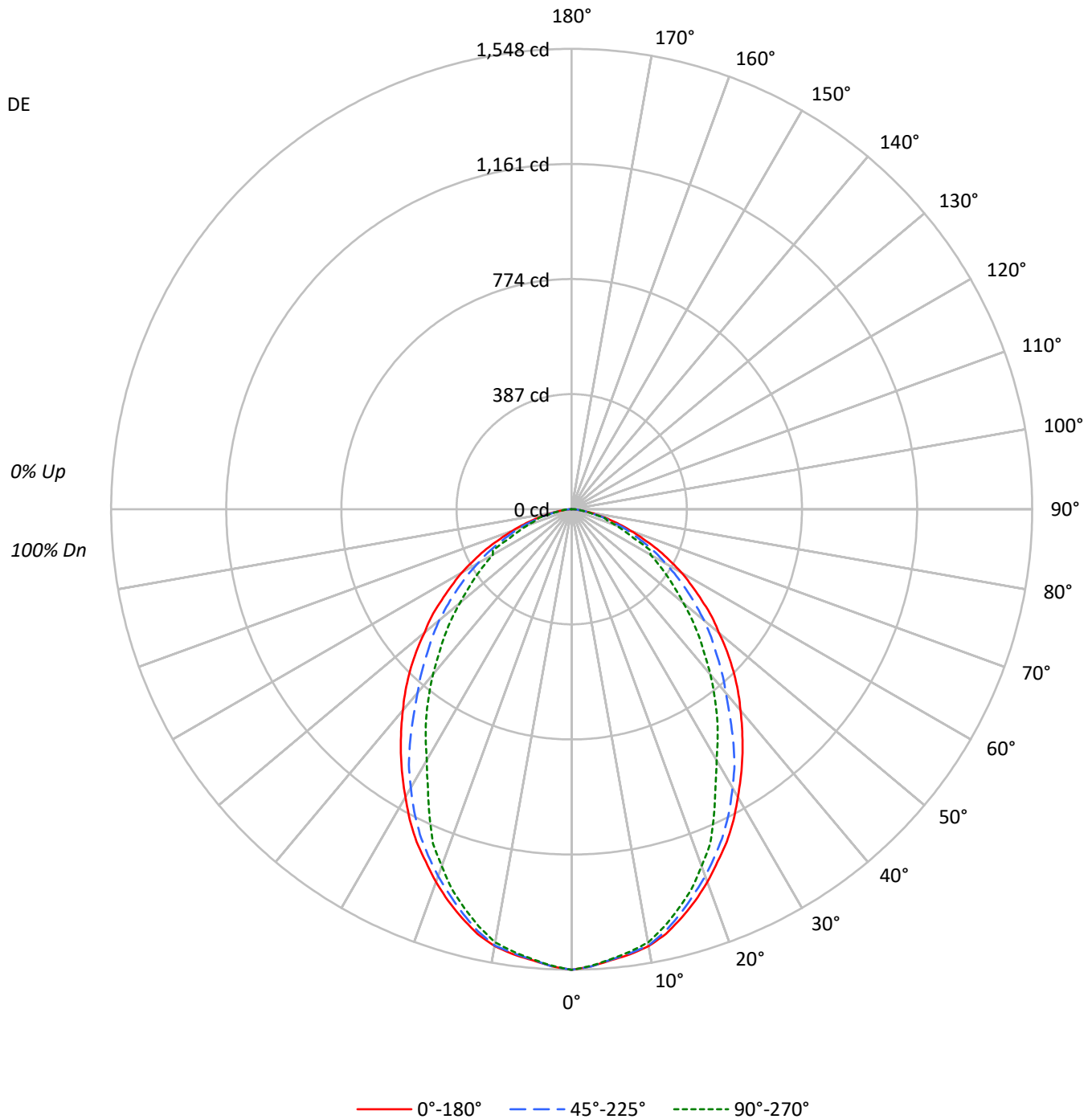
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	2083	2083	2083
5°	2055	2053	2050
10°	2037	2035	2020
15°	1982	1963	1935
20°	1910	1879	1828
25°	1831	1791	1680
30°	1736	1680	1513
35°	1644	1553	1400
40°	1550	1415	1273
45°	1461	1308	1151
50°	1353	1214	1027
55°	1251	1100	920
60°	1147	983	824
65°	1009	861	729
70°	831	754	620
75°	661	577	605
80°	444	416	388
85°	276	332	387

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 1461 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	144.1	4.7
10°-20°	395.6	13.0
20°-30°	547.7	18.0
30°-40°	584.0	19.2
40°-50°	532.8	17.5
50°-60°	417.4	13.7
60°-70°	272.0	8.9
70°-80°	120.5	4.0
80°-90°	25.9	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°	1087.4	35.8
0°-40°	1671.4	55.0
0°-60°	2621.6	86.2
0°-90°	3040.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3040.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1548	1548	1548	1548	1548	
5°	1522	1520	1520	1518	1518	144
15°	1423	1423	1409	1395	1389	400
25°	1234	1226	1207	1164	1131	566
35°	1001	994	945	874	852	626
45°	768	752	687	630	605	592
55°	534	517	469	414	392	479
65°	317	299	270	276	229	312
75°	127	118	111	106	116	136
85°	18	20	22	23	25	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1548.5	1548.5	1548.5	1548.5	1548.5
2.5°	1537.8	1537.8	1537.8	1536.0	1536.0
5°	1521.7	1519.9	1519.9	1518.1	1518.1
7.5°	1509.2	1507.4	1505.6	1503.8	1500.2
10°	1491.2	1491.2	1489.5	1480.5	1478.7
12.5°	1462.6	1460.8	1453.7	1441.1	1437.5
15°	1423.2	1423.2	1408.9	1394.6	1389.2
17.5°	1380.3	1378.5	1360.6	1346.2	1339.1
20°	1333.7	1330.1	1312.2	1289.0	1276.4
22.5°	1281.8	1281.8	1260.3	1229.9	1217.3
25°	1233.5	1226.3	1206.6	1163.6	1131.4
27.5°	1178.0	1167.2	1145.7	1084.9	1047.3
30°	1117.1	1111.7	1081.3	1002.5	973.9
32.5°	1059.8	1050.9	1018.6	936.3	913.0
35°	1000.7	993.6	945.2	873.6	852.1
37.5°	941.7	932.7	871.8	814.5	787.7
40°	882.6	871.8	805.6	753.7	725.0
42.5°	827.1	812.8	748.3	692.8	660.6
45°	768.0	751.9	687.4	630.2	605.1
47.5°	708.9	694.6	635.5	576.4	547.8
50°	646.3	633.7	580.0	521.0	490.5
52.5°	594.4	574.7	522.7	463.7	438.6
55°	533.5	517.4	469.0	413.5	392.1
57.5°	478.0	461.9	417.1	365.2	347.3
60°	426.1	402.8	365.2	320.4	306.1
62.5°	368.8	350.9	318.7	281.1	299.0
65°	316.9	299.0	270.3	275.7	229.1
67.5°	259.6	250.6	225.6	200.5	193.3
70°	211.2	200.5	191.6	164.7	157.5
72.5°	168.3	157.5	145.0	130.7	125.3
75°	127.1	118.2	111.0	105.6	116.4
77.5°	87.7	84.1	78.8	73.4	71.6
80°	57.3	55.5	53.7	51.9	50.1
82.5°	34.0	34.0	34.0	34.0	34.0
85°	17.9	19.7	21.5	23.3	25.1
87.5°	10.7	10.7	12.5	14.3	16.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)