

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P311015

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-CP187-W2A-U-4000K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P311015
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-60HE-UNV-L82765-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, RIBBED LENS, 0.187" POLYCARB SHEET
Light Source: (336) 4000K TUNABLE CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5151.0 lumens
Efficiency: N/A
Efficacy: 106.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.29 / 1.38
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

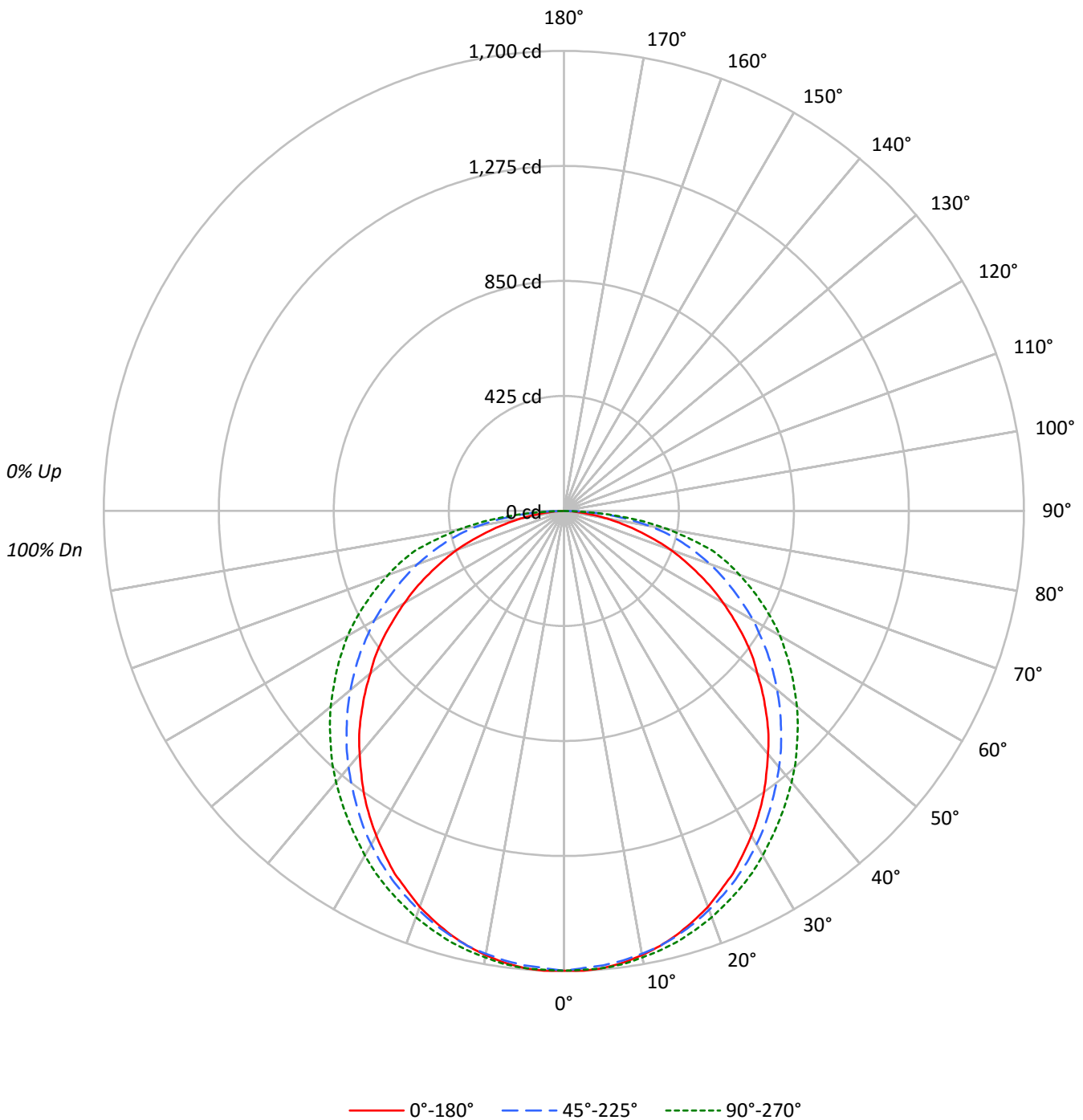
Input Watts (W): 48.2
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	98	94	105	100	96	92	96	92	89	92	89	87	88	86	84	82
2	98	89	81	75	95	87	80	74	83	78	73	80	75	71	77	73	69	67
3	89	77	69	62	86	76	68	61	73	66	60	70	64	59	67	62	58	56
4	81	68	59	52	79	67	58	52	64	57	51	62	56	50	60	54	50	47
5	74	61	52	45	72	60	51	44	58	50	44	56	49	43	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	64	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	37	31	57	45	36	30	43	36	30	42	35	30	41	34	30	28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	25	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2286	2286	2286
5°	2290	2276	2290
10°	2277	2270	2288
15°	2257	2262	2290
20°	2229	2246	2288
25°	2195	2230	2286
30°	2153	2212	2283
35°	2111	2190	2285
40°	2062	2173	2299
45°	2013	2159	2319
50°	1953	2153	2354
55°	1904	2157	2401
60°	1830	2175	2484
65°	1747	2198	2574
70°	1654	2266	2716
75°	1475	2363	2967
80°	1258	2503	3033
85°	897	2479	2902



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.8	3.1
10°-20°	459.7	8.9
20°-30°	694.3	13.5
30°-40°	836.8	16.2
40°-50°	878.5	17.1
50°-60°	821.9	16.0
60°-70°	678.7	13.2
70°-80°	462.5	9.0
80°-90°	157.7	3.1
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°	1314.8	25.5
0°-40°	2151.6	41.8
0°-60°	3852.0	74.8
0°-90°	5151.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5151.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1699	1699	1699	1699	1699	
5°	1695	1694	1685	1695	1695	161
15°	1620	1622	1624	1641	1644	457
25°	1478	1485	1502	1531	1540	680
35°	1285	1299	1333	1378	1391	803
45°	1058	1080	1135	1196	1218	816
55°	812	844	919	995	1024	725
65°	549	595	690	778	808	544
75°	284	349	455	540	571	303
85°	58	114	161	181	188	73
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1698.8	1698.8	1698.8	1698.8	1698.8
2.5°	1700.5	1698.8	1690.2	1698.8	1697.0
5°	1695.3	1693.6	1685.1	1695.3	1695.3
7.5°	1683.4	1683.4	1674.8	1686.8	1688.5
10°	1666.3	1666.3	1661.2	1674.8	1674.8
12.5°	1645.8	1645.8	1645.8	1659.4	1661.2
15°	1620.1	1621.8	1623.6	1640.6	1644.1
17.5°	1589.4	1592.8	1597.9	1618.4	1621.8
20°	1556.9	1560.3	1568.9	1592.8	1597.9
22.5°	1515.9	1524.4	1536.4	1563.7	1568.9
25°	1478.3	1485.1	1502.2	1531.3	1539.8
27.5°	1432.1	1442.4	1464.6	1495.4	1507.3
30°	1386.0	1396.3	1423.6	1459.5	1469.7
32.5°	1336.4	1351.8	1380.9	1418.5	1430.4
35°	1285.2	1298.8	1333.0	1377.5	1391.1
37.5°	1228.8	1247.6	1285.2	1333.0	1350.1
40°	1174.1	1194.6	1237.3	1288.6	1309.1
42.5°	1119.4	1139.9	1187.8	1245.9	1266.4
45°	1057.9	1080.1	1134.8	1196.3	1218.5
47.5°	996.4	1023.7	1083.5	1148.5	1172.4
50°	933.1	963.9	1028.8	1097.2	1124.5
52.5°	876.7	905.8	974.1	1047.6	1073.3
55°	811.8	844.3	919.4	994.6	1023.7
57.5°	745.1	781.0	861.3	943.4	972.4
60°	680.2	719.5	808.4	890.4	922.9
62.5°	617.0	656.3	748.5	834.0	866.5
65°	548.6	594.7	690.4	777.6	808.4
67.5°	483.6	533.2	634.0	719.5	750.3
70°	420.4	468.3	575.9	659.7	690.4
72.5°	352.1	406.7	514.4	601.6	634.0
75°	283.7	348.6	454.6	540.0	570.8
77.5°	220.5	287.1	393.1	463.1	478.5
80°	162.4	230.7	323.0	372.6	391.4
82.5°	104.2	172.6	246.1	282.0	297.4
85°	58.1	114.5	160.6	181.2	188.0
87.5°	23.9	49.6	64.9	73.5	73.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)