

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: P313407

Luminaire Tested: **24FCZ2-75HE-UNV-L83050-HRP-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: P313407
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-20)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-75HE-UNV-L83050-HRP-CP187-W2A-U-4000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. 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: 5260.0 lumens
Efficiency: N/A
Efficacy: 81.9 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.3 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

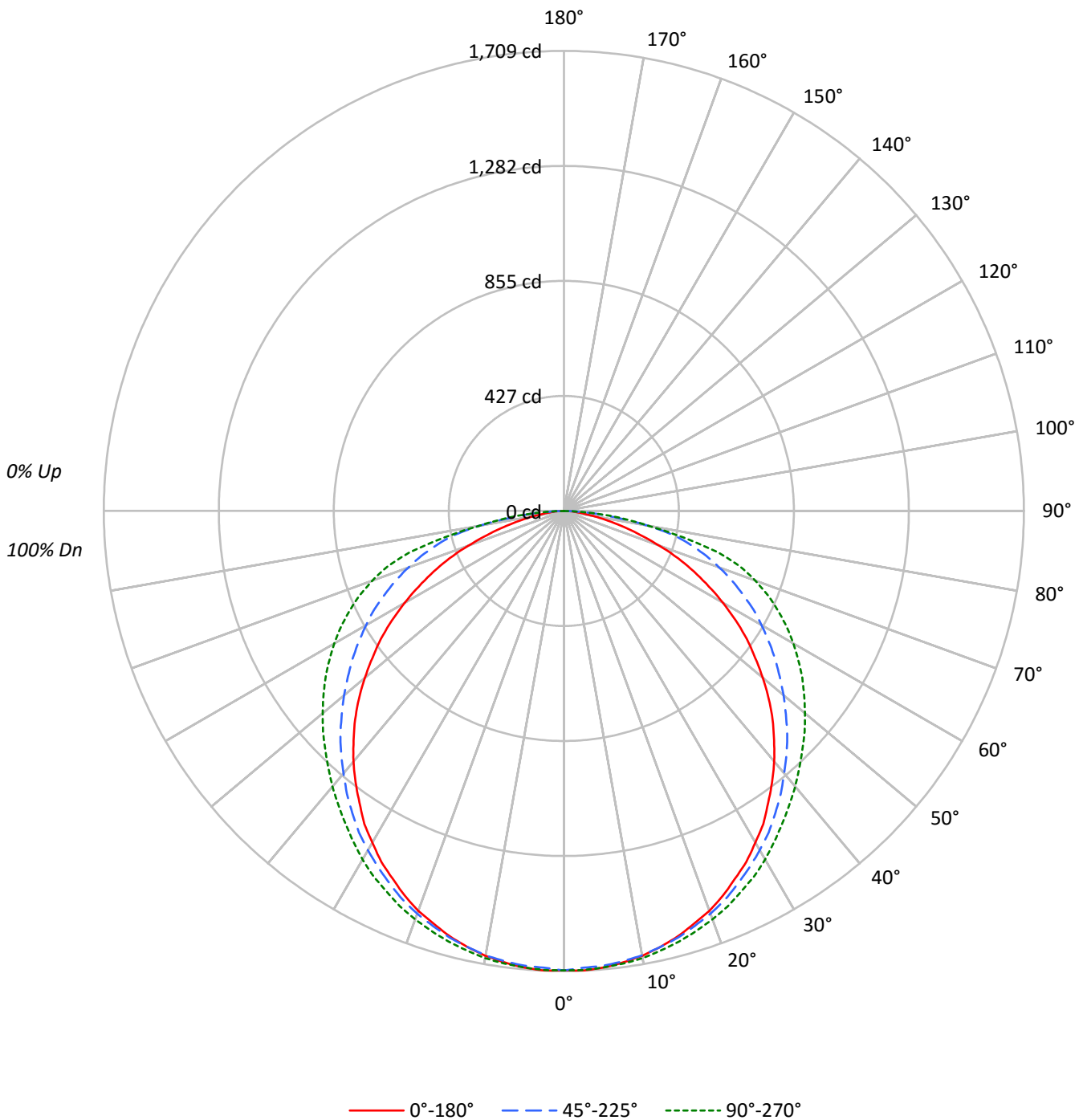
Input Watts (W): 64.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	101	96	93	96	93	90	92	90	87	89	86	84	82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31
8	59	45	36	30	57	44	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	24	35	29	24	23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2296	2296	2296
5°	2299	2290	2299
10°	2293	2290	2305
15°	2279	2285	2307
20°	2264	2280	2311
25°	2236	2269	2315
30°	2210	2261	2323
35°	2174	2250	2326
40°	2135	2236	2348
45°	2087	2233	2384
50°	2019	2231	2448
55°	1947	2247	2536
60°	1837	2281	2649
65°	1697	2335	2797
70°	1482	2417	2980
75°	1202	2542	3080
80°	887	2491	2491
85°	679	1836	2073



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	161.7	3.1
10°-20°	464.3	8.8
20°-30°	706.8	13.4
30°-40°	858.2	16.3
40°-50°	906.7	17.2
50°-60°	855.5	16.3
60°-70°	711.3	13.5
70°-80°	468.0	8.9
80°-90°	127.6	2.4
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°	1332.7	25.3
0°-40°	2190.9	41.7
0°-60°	3953.1	75.2
0°-90°	5260.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5260.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1707	1707	1707	1707	1707	
5°	1702	1702	1696	1702	1702	162
15°	1636	1638	1640	1656	1656	461
25°	1506	1515	1528	1555	1559	695
35°	1323	1339	1370	1405	1416	828
45°	1097	1119	1174	1231	1253	845
55°	830	865	958	1048	1081	739
65°	533	595	733	841	879	527
75°	231	337	489	579	592	249
85°	44	97	119	132	134	54
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1706.6	1706.6	1706.6	1706.6	1706.6
2.5°	1708.8	1706.6	1697.8	1706.6	1706.6
5°	1702.2	1702.2	1695.6	1702.2	1702.2
7.5°	1691.2	1691.2	1686.8	1695.6	1695.6
10°	1678.0	1678.0	1675.8	1686.8	1686.8
12.5°	1658.2	1660.4	1658.2	1671.4	1671.4
15°	1636.1	1638.3	1640.5	1656.0	1656.0
17.5°	1607.5	1611.9	1616.3	1633.9	1636.1
20°	1581.1	1583.3	1592.1	1611.9	1614.1
22.5°	1545.9	1552.5	1563.5	1583.3	1589.9
25°	1506.2	1515.0	1528.2	1554.7	1559.1
27.5°	1468.8	1475.4	1493.0	1521.6	1530.4
30°	1422.5	1433.6	1455.6	1484.2	1495.2
32.5°	1378.5	1389.5	1415.9	1446.8	1455.6
35°	1323.4	1338.9	1369.7	1404.9	1415.9
37.5°	1270.6	1286.0	1323.4	1363.1	1376.3
40°	1215.5	1233.2	1272.8	1319.0	1336.7
42.5°	1156.1	1180.3	1224.4	1275.0	1294.8
45°	1096.6	1118.7	1173.7	1231.0	1253.0
47.5°	1032.8	1059.2	1118.7	1186.9	1213.3
50°	964.5	997.5	1065.8	1140.7	1169.3
52.5°	896.2	933.7	1010.8	1094.4	1125.3
55°	830.2	865.4	957.9	1048.2	1081.2
57.5°	757.5	801.6	902.9	999.7	1032.8
60°	682.6	731.1	847.8	949.1	984.3
62.5°	607.8	662.8	795.0	896.2	933.7
65°	532.9	594.6	733.3	841.2	878.6
67.5°	460.2	528.5	676.0	783.9	821.4
70°	376.6	462.4	614.4	720.1	757.5
72.5°	299.5	398.6	554.9	654.0	687.0
75°	231.2	336.9	488.9	579.1	592.4
77.5°	169.6	275.3	420.6	451.4	453.6
80°	114.5	220.2	321.5	317.1	321.5
82.5°	74.9	165.2	202.6	226.8	229.0
85°	44.0	96.9	118.9	132.1	134.3
87.5°	22.0	33.0	41.8	44.0	48.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)