

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: P309798

Luminaire Tested: **24FCZ2-75HE-UNV-L82765-HRP-CP187-W2A-U-3000K**

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: P309798
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-L82765-HRP-CP187-W2A-U-3000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (336) 3000K 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: 4619.0 lumens
Efficiency: N/A
Efficacy: 74.0 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

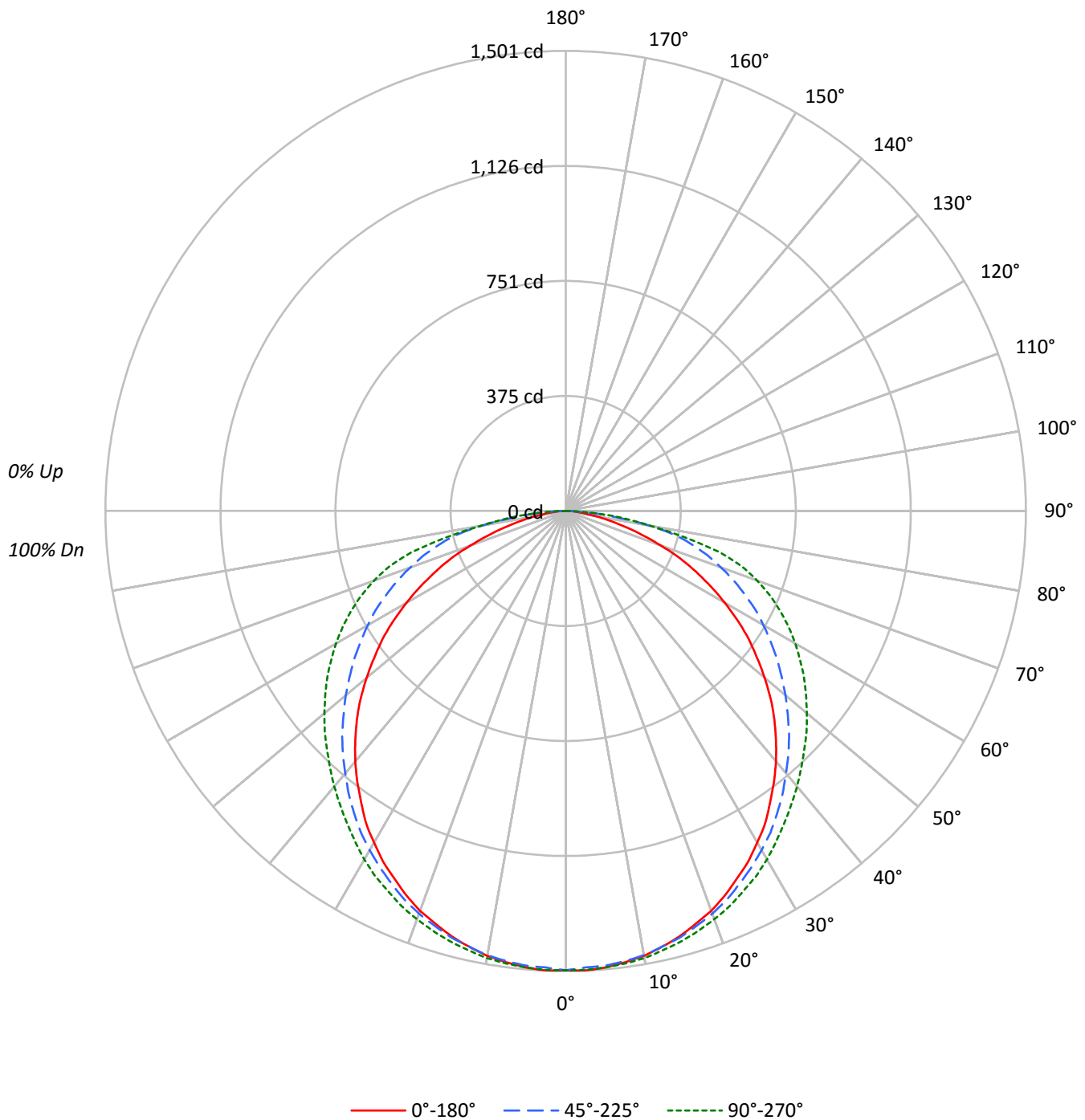
Input Watts (W): 62.4
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				0
RW	70	50	30	10	70	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		100
1	108	103	98	94	105	101	96	93	96	93	90		92	90	87		82
2	98	89	82	76	95	87	80	75	83	78	73		80	75	71		67
3	89	78	69	62	86	76	68	62	73	66	61		70	64	59		56
4	81	68	59	52	79	67	59	52	65	57	51		62	56	50		48
5	74	61	52	45	72	60	51	45	58	50	44		56	49	44		41
6	69	55	46	39	67	54	45	39	52	44	38		50	43	38		36
7	63	50	41	34	62	49	40	34	47	39	34		46	39	34		31
8	59	45	36	30	57	44	36	30	43	36	30		42	35	30		28
9	55	41	33	27	54	41	33	27	40	32	27		39	32	27		25
10	52	38	30	25	50	38	30	25	37	30	25		36	29	24		23

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2016	2016	2016
5°	2019	2011	2019
10°	2013	2011	2024
15°	2001	2007	2026
20°	1988	2002	2029
25°	1964	1992	2033
30°	1941	1986	2040
35°	1909	1976	2042
40°	1875	1963	2062
45°	1832	1961	2094
50°	1773	1959	2149
55°	1710	1973	2227
60°	1613	2003	2326
65°	1490	2050	2457
70°	1301	2122	2617
75°	1055	2232	2704
80°	779	2187	2187
85°	597	1612	1822



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.0	3.1
10°-20°	407.7	8.8
20°-30°	620.6	13.4
30°-40°	753.6	16.3
40°-50°	796.2	17.2
50°-60°	751.3	16.3
60°-70°	624.7	13.5
70°-80°	411.0	8.9
80°-90°	112.0	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°	1170.3	25.3
0°-40°	1923.9	41.7
0°-60°	3471.4	75.2
0°-90°	4619.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4619.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1499	1499	1499	1499	1499	
5°	1495	1495	1489	1495	1495	142
15°	1437	1439	1441	1454	1454	405
25°	1323	1330	1342	1365	1369	610
35°	1162	1176	1203	1234	1243	728
45°	963	982	1031	1081	1100	742
55°	729	760	841	920	950	649
65°	468	522	644	739	772	463
75°	203	296	429	509	520	219
85°	39	85	104	116	118	47
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1498.6	1498.6	1498.6	1498.6	1498.6
2.5°	1500.6	1498.6	1490.9	1498.6	1498.6
5°	1494.8	1494.8	1489.0	1494.8	1494.8
7.5°	1485.1	1485.1	1481.2	1489.0	1489.0
10°	1473.5	1473.5	1471.6	1481.2	1481.2
12.5°	1456.1	1458.0	1456.1	1467.7	1467.7
15°	1436.8	1438.7	1440.6	1454.2	1454.2
17.5°	1411.6	1415.5	1419.4	1434.8	1436.8
20°	1388.4	1390.3	1398.1	1415.5	1417.4
22.5°	1357.5	1363.3	1372.9	1390.3	1396.2
25°	1322.7	1330.4	1342.0	1365.2	1369.1
27.5°	1289.8	1295.6	1311.1	1336.2	1343.9
30°	1249.2	1258.9	1278.2	1303.3	1313.0
32.5°	1210.5	1220.2	1243.4	1270.5	1278.2
35°	1162.2	1175.7	1202.8	1233.7	1243.4
37.5°	1115.8	1129.3	1162.2	1197.0	1208.6
40°	1067.4	1082.9	1117.7	1158.3	1173.8
42.5°	1015.2	1036.5	1075.2	1119.6	1137.0
45°	963.0	982.3	1030.7	1081.0	1100.3
47.5°	906.9	930.1	982.3	1042.3	1065.5
50°	847.0	876.0	935.9	1001.7	1026.8
52.5°	787.0	819.9	887.6	961.1	988.1
55°	729.0	760.0	841.2	920.5	949.5
57.5°	665.2	703.9	792.8	877.9	906.9
60°	599.5	642.0	744.5	833.4	864.4
62.5°	533.7	582.1	698.1	787.0	819.9
65°	468.0	522.1	643.9	738.7	771.6
67.5°	404.1	464.1	593.7	688.4	721.3
70°	330.7	406.1	539.5	632.3	665.2
72.5°	263.0	350.0	487.3	574.3	603.3
75°	203.0	295.9	429.3	508.6	520.2
77.5°	148.9	241.7	369.3	396.4	398.3
80°	100.6	193.4	282.3	278.5	282.3
82.5°	65.7	145.0	177.9	199.2	201.1
85°	38.7	85.1	104.4	116.0	118.0
87.5°	19.3	29.0	36.7	38.7	42.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)