

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: P311377

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-S-CP187-W2A-U-5000K**

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: P311377
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-40HE-UNV-L82765-S-CP187-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5000K 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: 3770.0 lumens
Efficiency: N/A
Efficacy: 121.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

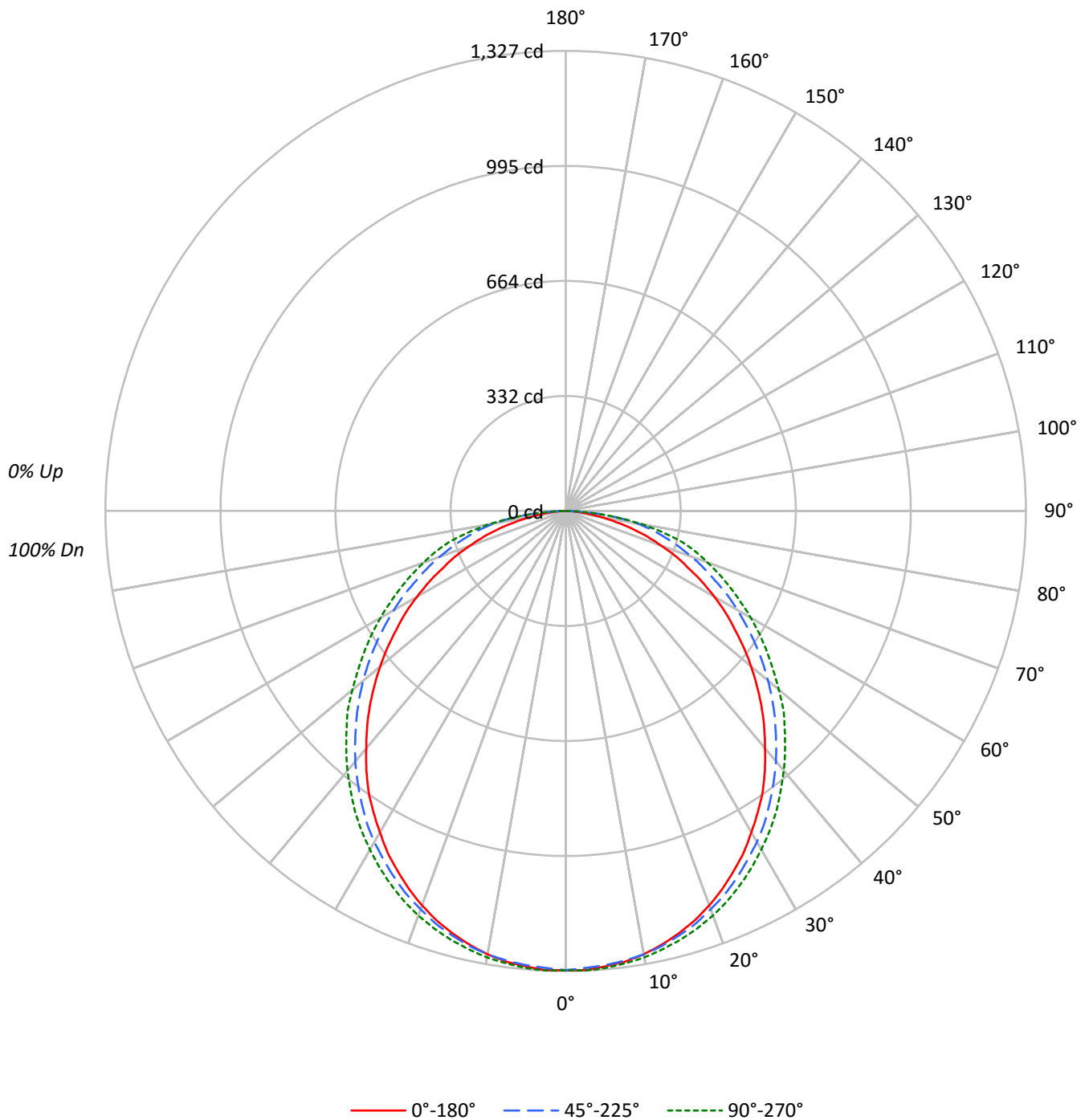
Input Watts (W): 31.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P311377

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-S-CP187-W2A-U-5000K

Luminous Intensity Polar Plot





TEST NUMBER: P311377

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-S-CP187-W2A-U-5000K

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	99	95	106	101	97	93	97	93	90		93	90	88		83
2	98	90	83	77	96	88	81	76	84	79	74		81	76	72		69
3	89	79	70	64	87	77	69	63	74	67	62		71	66	61		58
4	82	70	61	54	80	68	60	54	66	59	53		63	57	52		49
5	75	62	53	46	73	61	53	46	59	51	46		57	50	45		42
6	70	56	47	40	68	55	47	40	53	46	40		52	45	40		37
7	64	51	42	36	63	50	42	36	48	41	35		47	40	35		33
8	60	46	38	32	58	46	37	32	44	37	32		43	36	31		29
9	56	43	34	29	55	42	34	29	41	34	28		40	33	28		26
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1782	1782	1782
5°	1781	1776	1787
10°	1774	1774	1787
15°	1757	1765	1783
20°	1734	1751	1778
25°	1701	1733	1767
30°	1663	1714	1753
35°	1627	1686	1739
40°	1571	1657	1718
45°	1520	1625	1700
50°	1461	1594	1679
55°	1396	1565	1663
60°	1331	1540	1660
65°	1247	1514	1670
70°	1154	1522	1715
75°	1033	1550	1812
80°	835	1643	1772
85°	628	1442	1405



TEST NUMBER: P311377

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-S-CP187-W2A-U-5000K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.4	3.3
10°-20°	358.3	9.5
20°-30°	538.6	14.3
30°-40°	641.5	17.0
40°-50°	656.5	17.4
50°-60°	591.1	15.7
60°-70°	464.2	12.3
70°-80°	301.3	8.0
80°-90°	93.2	2.5
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°	1022.2	27.1
0°-40°	1663.7	44.1
0°-60°	2911.3	77.2
0°-90°	3770.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3770.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1324	1324	1324	1324	1324	
5°	1318	1321	1315	1322	1323	125
15°	1261	1265	1267	1278	1280	356
25°	1146	1156	1168	1187	1190	528
35°	990	1002	1026	1051	1059	618
45°	799	818	854	886	893	616
55°	595	622	667	702	709	534
65°	392	422	475	515	524	390
75°	199	237	298	339	348	210
85°	41	75	93	91	91	49
90°	0	0	0	0	0	



TEST NUMBER: P311377

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-S-CP187-W2A-U-5000K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1324.4	1324.4	1324.4	1324.4	1324.4
2.5°	1325.6	1325.6	1319.6	1325.6	1326.8
5°	1318.4	1320.8	1314.8	1322.0	1323.2
7.5°	1311.3	1311.3	1307.7	1314.8	1316.0
10°	1298.1	1299.3	1298.1	1306.5	1307.7
12.5°	1281.3	1283.7	1284.9	1293.3	1294.5
15°	1261.0	1264.6	1266.9	1277.7	1280.1
17.5°	1238.2	1241.8	1247.8	1259.8	1262.2
20°	1210.7	1215.5	1222.6	1238.2	1241.8
22.5°	1180.7	1185.5	1197.5	1211.9	1217.8
25°	1146.0	1155.6	1167.6	1186.7	1190.3
27.5°	1111.3	1119.7	1135.2	1155.6	1160.4
30°	1070.6	1083.7	1102.9	1123.2	1128.0
32.5°	1031.0	1044.2	1067.0	1088.5	1094.5
35°	990.3	1002.3	1026.3	1051.4	1058.6
37.5°	943.6	959.2	985.5	1010.7	1017.9
40°	894.5	913.7	943.6	970.0	978.4
42.5°	847.8	868.2	898.1	926.9	936.4
45°	798.7	817.9	853.8	886.1	893.3
47.5°	748.4	770.0	808.3	840.6	852.6
50°	698.1	720.9	761.6	795.1	802.3
52.5°	647.8	671.8	714.9	750.8	754.4
55°	595.2	621.5	667.0	701.7	708.9
57.5°	547.3	570.0	619.1	655.0	663.4
60°	494.6	519.7	572.4	605.9	616.7
62.5°	444.3	470.6	525.7	559.2	568.8
65°	391.6	421.5	475.4	514.9	524.5
67.5°	346.1	374.8	432.3	470.6	480.2
70°	293.4	325.7	386.8	426.3	435.9
72.5°	247.9	281.4	342.5	380.8	395.2
75°	198.8	237.1	298.2	338.9	348.5
77.5°	150.9	195.2	257.5	288.6	288.6
80°	107.8	154.5	212.0	226.3	228.7
82.5°	70.7	116.2	156.9	155.7	155.7
85°	40.7	75.4	93.4	91.0	91.0
87.5°	15.6	31.1	33.5	33.5	32.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)