

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: P311379

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-S-CP187-W2A-U-5700K**

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: P311379
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-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 5700K 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: 3817.0 lumens
Efficiency: N/A
Efficacy: 121.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.27 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

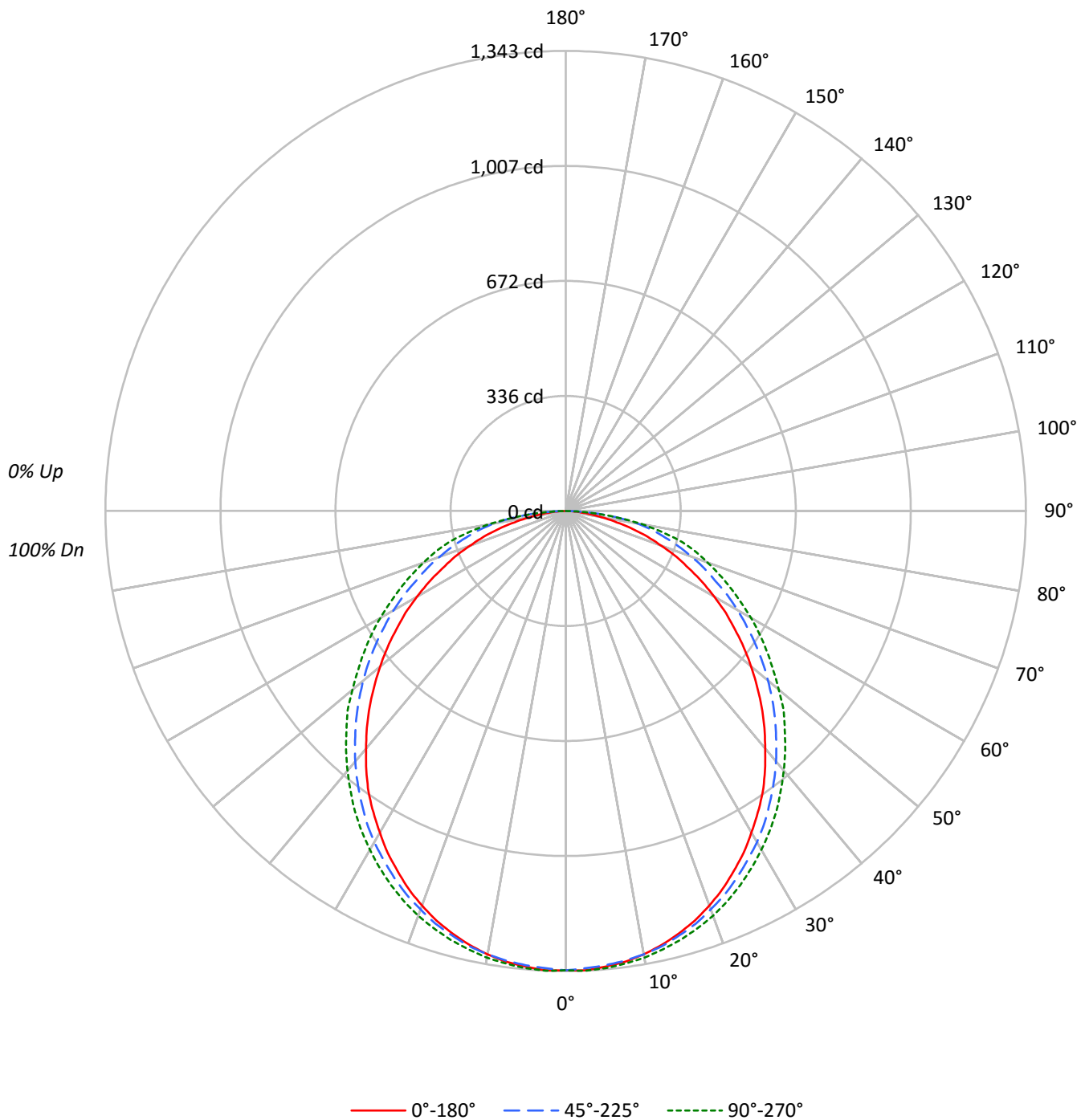
Input Watts (W): 31.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



TEST NUMBER: P311379

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-S-CP187-W2A-U-5700K

Luminous Intensity Polar Plot





TEST NUMBER: P311379

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-S-CP187-W2A-U-5700K

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°	1804	1804	1804
5°	1803	1798	1809
10°	1796	1796	1809
15°	1778	1787	1805
20°	1755	1772	1800
25°	1723	1755	1789
30°	1684	1735	1774
35°	1647	1707	1760
40°	1591	1678	1740
45°	1539	1645	1721
50°	1479	1614	1700
55°	1414	1584	1684
60°	1347	1559	1680
65°	1262	1532	1691
70°	1168	1541	1736
75°	1046	1569	1834
80°	845	1663	1795
85°	636	1460	1422



TEST NUMBER: P311379

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-S-CP187-W2A-U-5700K

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.9	3.3
10°-20°	362.7	9.5
20°-30°	545.3	14.3
30°-40°	649.5	17.0
40°-50°	664.7	17.4
50°-60°	598.5	15.7
60°-70°	470.0	12.3
70°-80°	305.0	8.0
80°-90°	94.3	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°	1034.9	27.1
0°-40°	1684.5	44.1
0°-60°	2947.7	77.2
0°-90°	3817.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3817.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1341	1341	1341	1341	1341	
5°	1335	1337	1331	1338	1340	127
15°	1277	1280	1283	1294	1296	360
25°	1160	1170	1182	1202	1205	535
35°	1003	1015	1039	1064	1072	626
45°	809	828	864	897	904	623
55°	603	629	675	710	718	540
65°	396	427	481	521	531	395
75°	201	240	302	343	353	213
85°	41	76	95	92	92	50
90°	0	0	0	0	0	



TEST NUMBER: P311379

CATALOG NUMBER: 24FCZ2-40HE-UNV-L82765-S-CP187-W2A-U-5700K

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1340.9	1340.9	1340.9	1340.9	1340.9
2.5°	1342.1	1342.1	1336.1	1342.1	1343.4
5°	1334.9	1337.3	1331.2	1338.5	1339.7
7.5°	1327.6	1327.6	1324.0	1331.2	1332.5
10°	1314.3	1315.5	1314.3	1322.8	1324.0
12.5°	1297.3	1299.7	1300.9	1309.4	1310.6
15°	1276.7	1280.3	1282.7	1293.7	1296.1
17.5°	1253.6	1257.3	1263.3	1275.5	1277.9
20°	1225.8	1230.6	1237.9	1253.6	1257.3
22.5°	1195.4	1200.3	1212.4	1227.0	1233.0
25°	1160.3	1170.0	1182.1	1201.5	1205.1
27.5°	1125.1	1133.6	1149.4	1170.0	1174.8
30°	1083.9	1097.2	1116.6	1137.3	1142.1
32.5°	1043.9	1057.2	1080.3	1102.1	1108.2
35°	1002.7	1014.8	1039.0	1064.5	1071.8
37.5°	955.4	971.1	997.8	1023.3	1030.6
40°	905.7	925.1	955.4	982.1	990.5
42.5°	858.4	879.0	909.3	938.4	948.1
45°	808.7	828.1	864.5	897.2	904.5
47.5°	757.8	779.6	818.4	851.1	863.2
50°	706.8	729.9	771.1	805.0	812.3
52.5°	655.9	680.2	723.8	760.2	763.8
55°	602.6	629.2	675.3	710.5	717.8
57.5°	554.1	577.1	626.8	663.2	671.7
60°	500.7	526.2	579.5	613.5	624.4
62.5°	449.8	476.5	532.3	566.2	575.9
65°	396.5	426.8	481.3	521.3	531.0
67.5°	350.4	379.5	437.7	476.5	486.2
70°	297.0	329.8	391.6	431.6	441.3
72.5°	251.0	284.9	346.8	385.5	400.1
75°	201.3	240.1	301.9	343.1	352.8
77.5°	152.8	197.6	260.7	292.2	292.2
80°	109.1	156.4	214.6	229.1	231.6
82.5°	71.5	117.6	158.8	157.6	157.6
85°	41.2	76.4	94.6	92.1	92.1
87.5°	15.8	31.5	33.9	33.9	32.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)