

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: P311380

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-S-CP187-W2A-U-6500K**

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: P311380
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-6500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (336) 6500K 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: 3827.0 lumens
Efficiency: N/A
Efficacy: 120.3 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

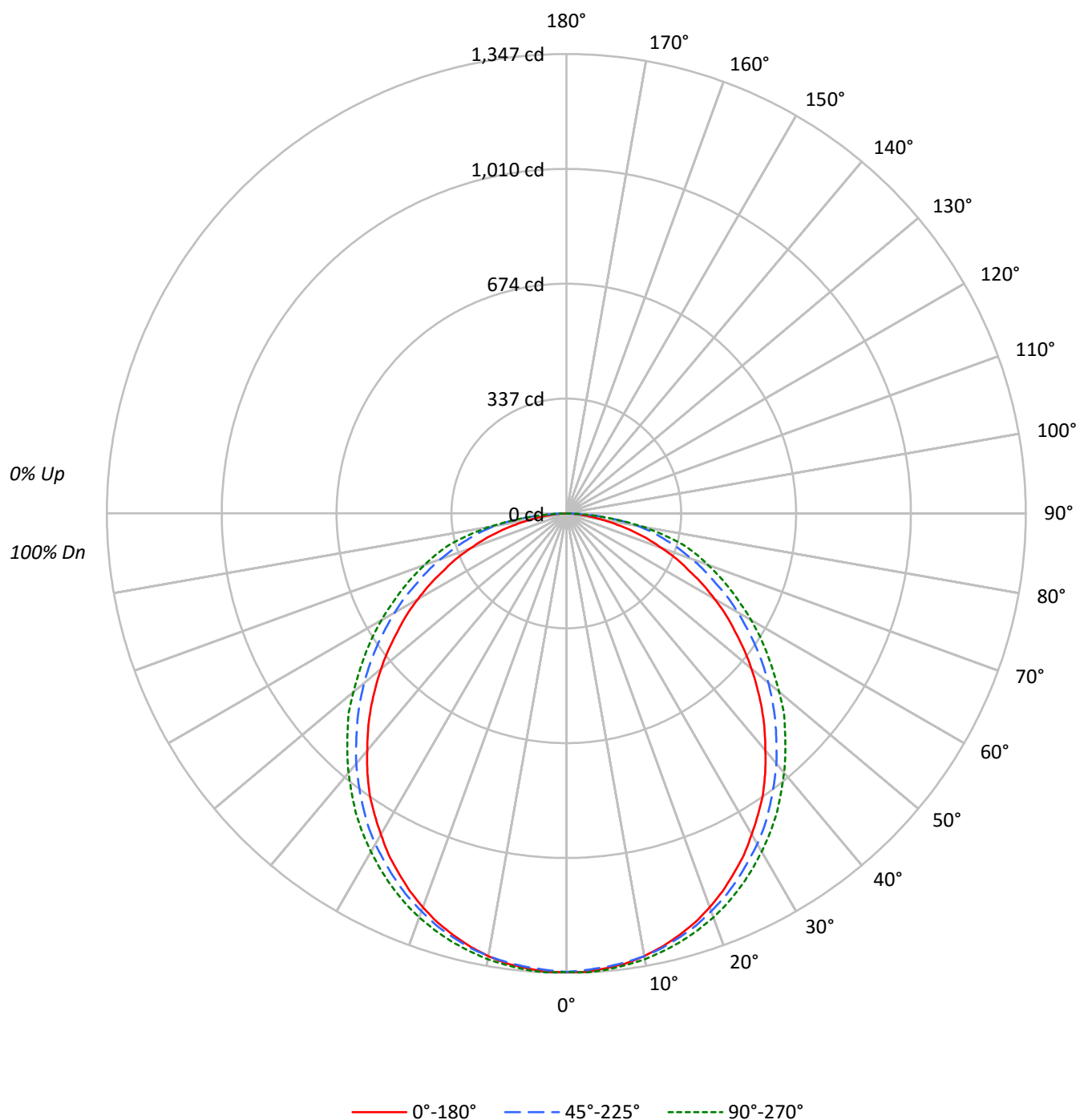
Input Watts (W): 31.8
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1809	1809	1809
5°	1808	1803	1814
10°	1800	1800	1814
15°	1783	1791	1810
20°	1760	1777	1805
25°	1727	1760	1794
30°	1688	1739	1779
35°	1651	1711	1765
40°	1595	1682	1744
45°	1543	1649	1725
50°	1483	1618	1705
55°	1417	1588	1688
60°	1351	1564	1685
65°	1266	1536	1695
70°	1172	1544	1741
75°	1049	1574	1839
80°	848	1667	1799
85°	638	1463	1426



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.3	3.3
10°-20°	363.7	9.5
20°-30°	546.7	14.3
30°-40°	651.2	17.0
40°-50°	666.5	17.4
50°-60°	600.0	15.7
60°-70°	471.2	12.3
70°-80°	305.8	8.0
80°-90°	94.6	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°	1037.7	27.1
0°-40°	1688.9	44.1
0°-60°	2955.4	77.2
0°-90°	3827.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3827.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1344	1344	1344	1344	1344	
5°	1338	1341	1335	1342	1343	127
15°	1280	1284	1286	1297	1300	361
25°	1163	1173	1185	1205	1208	536
35°	1005	1018	1042	1067	1075	627
45°	811	830	867	900	907	625
55°	604	631	677	712	720	542
65°	398	428	483	523	532	396
75°	202	241	303	344	354	214
85°	41	77	95	92	92	50
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1344.5	1344.5	1344.5	1344.5	1344.5
2.5°	1345.7	1345.7	1339.6	1345.7	1346.9
5°	1338.4	1340.8	1334.7	1342.0	1343.2
7.5°	1331.1	1331.1	1327.4	1334.7	1335.9
10°	1317.7	1318.9	1317.7	1326.2	1327.4
12.5°	1300.7	1303.1	1304.3	1312.8	1314.1
15°	1280.0	1283.7	1286.1	1297.0	1299.5
17.5°	1256.9	1260.6	1266.7	1278.8	1281.2
20°	1229.0	1233.8	1241.1	1256.9	1260.6
22.5°	1198.6	1203.4	1215.6	1230.2	1236.3
25°	1163.3	1173.1	1185.2	1204.7	1208.3
27.5°	1128.1	1136.6	1152.4	1173.1	1177.9
30°	1086.7	1100.1	1119.6	1140.2	1145.1
32.5°	1046.6	1060.0	1083.1	1105.0	1111.1
35°	1005.3	1017.5	1041.8	1067.3	1074.6
37.5°	957.9	973.7	1000.4	1026.0	1033.3
40°	908.1	927.5	957.9	984.6	993.1
42.5°	860.6	881.3	911.7	940.9	950.6
45°	810.8	830.3	866.7	899.5	906.8
47.5°	759.7	781.6	820.5	853.3	865.5
50°	708.7	731.8	773.1	807.2	814.4
52.5°	657.6	681.9	725.7	762.2	765.8
55°	604.2	630.9	677.1	712.3	719.6
57.5°	555.5	578.6	628.5	664.9	673.4
60°	502.0	527.6	581.1	615.1	626.0
62.5°	451.0	477.7	533.6	567.7	577.4
65°	397.5	427.9	482.6	522.7	532.4
67.5°	351.3	380.5	438.8	477.7	487.5
70°	297.8	330.6	392.6	432.8	442.5
72.5°	251.6	285.7	347.7	386.6	401.1
75°	201.8	240.7	302.7	344.0	353.7
77.5°	153.2	198.1	261.4	293.0	293.0
80°	109.4	156.8	215.2	229.7	232.2
82.5°	71.7	117.9	159.2	158.0	158.0
85°	41.3	76.6	94.8	92.4	92.4
87.5°	15.8	31.6	34.0	34.0	32.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)