

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: P314313

Luminaire Tested: **24FCZ2-40-UNV-L83050-S-CP250-W2A-U-4500K**

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: P314313
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: 24FCZ2-40-UNV-L83050-S-CP250-W2A-U-4500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET
Light Source: (168) 4500K 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: 3826.0 lumens
Efficiency: N/A
Efficacy: 111.5 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

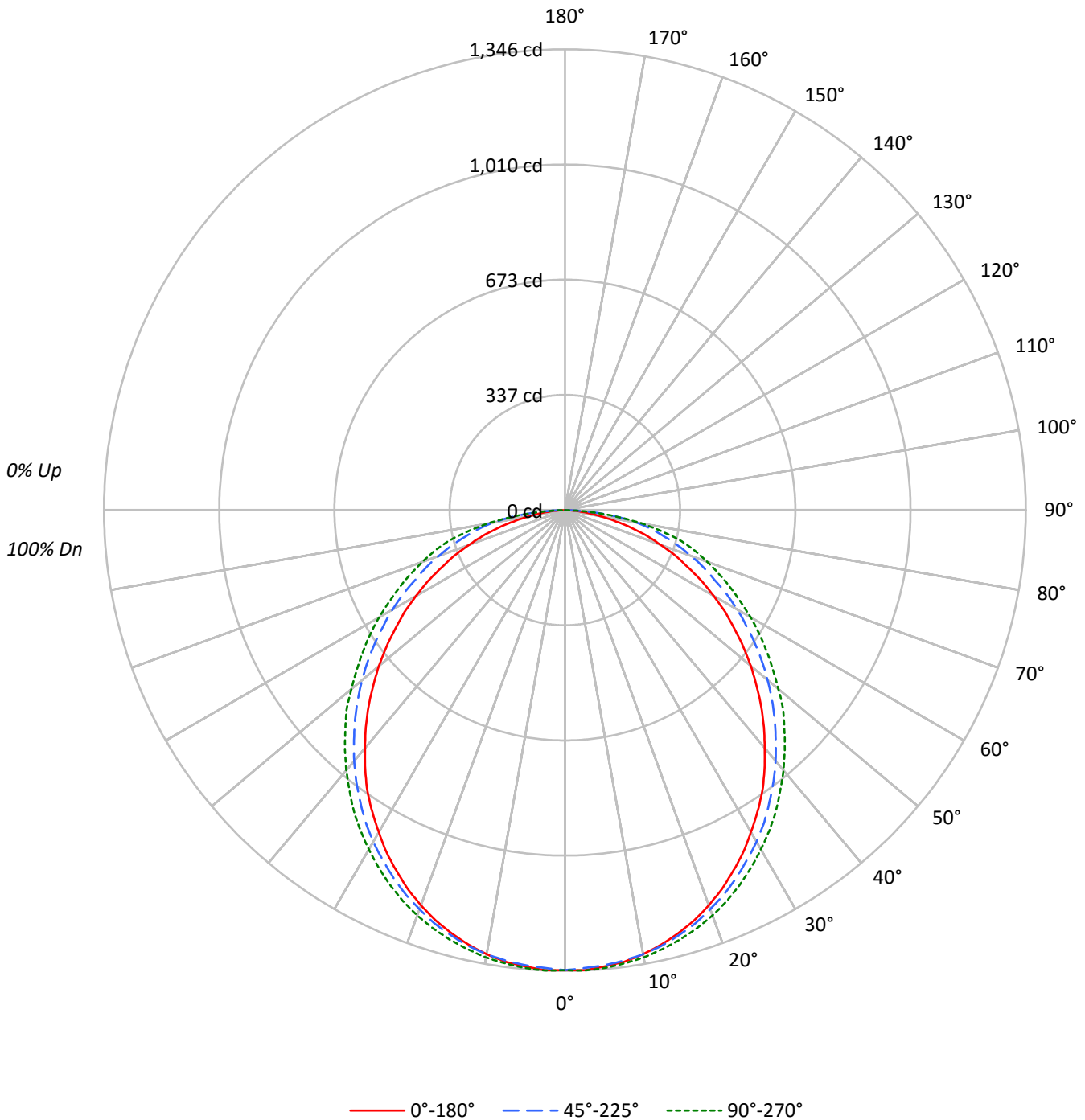
Input Watts (W): 34.3
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1808	1808	1808
5°	1807	1802	1814
10°	1800	1800	1813
15°	1783	1791	1810
20°	1759	1777	1804
25°	1727	1759	1793
30°	1688	1739	1779
35°	1651	1711	1765
40°	1594	1682	1744
45°	1542	1649	1725
50°	1483	1618	1704
55°	1417	1588	1688
60°	1351	1563	1684
65°	1265	1536	1695
70°	1171	1544	1740
75°	1049	1573	1838
80°	848	1667	1798
85°	638	1463	1426



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.2	3.3
10°-20°	363.6	9.5
20°-30°	546.6	14.3
30°-40°	651.0	17.0
40°-50°	666.3	17.4
50°-60°	599.9	15.7
60°-70°	471.1	12.3
70°-80°	305.7	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°	1037.4	27.1
0°-40°	1688.4	44.1
0°-60°	2954.6	77.2
0°-90°	3826.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3826.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1344	1344	1344	1344	1344	
5°	1338	1340	1334	1342	1343	127
15°	1280	1283	1286	1297	1299	361
25°	1163	1173	1185	1204	1208	536
35°	1005	1017	1042	1067	1074	627
45°	811	830	866	899	907	625
55°	604	631	677	712	719	541
65°	397	428	482	523	532	396
75°	202	241	303	344	354	213
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°	1344.1	1344.1	1344.1	1344.1	1344.1
2.5°	1345.3	1345.3	1339.2	1345.3	1346.5
5°	1338.0	1340.5	1334.4	1341.7	1342.9
7.5°	1330.7	1330.7	1327.1	1334.4	1335.6
10°	1317.4	1318.6	1317.4	1325.9	1327.1
12.5°	1300.3	1302.8	1304.0	1312.5	1313.7
15°	1279.7	1283.3	1285.8	1296.7	1299.1
17.5°	1256.6	1260.2	1266.3	1278.5	1280.9
20°	1228.6	1233.5	1240.8	1256.6	1260.2
22.5°	1198.3	1203.1	1215.3	1229.9	1235.9
25°	1163.0	1172.7	1184.9	1204.3	1208.0
27.5°	1127.8	1136.3	1152.1	1172.7	1177.6
30°	1086.5	1099.8	1119.3	1139.9	1144.8
32.5°	1046.4	1059.7	1082.8	1104.7	1110.8
35°	1005.0	1017.2	1041.5	1067.0	1074.3
37.5°	957.6	973.4	1000.2	1025.7	1033.0
40°	907.8	927.3	957.6	984.4	992.9
42.5°	860.4	881.1	911.5	940.6	950.3
45°	810.6	830.0	866.5	899.3	906.6
47.5°	759.5	781.4	820.3	853.1	865.3
50°	708.5	731.6	772.9	806.9	814.2
52.5°	657.5	681.8	725.5	762.0	765.6
55°	604.0	630.7	676.9	712.2	719.4
57.5°	555.4	578.5	628.3	664.8	673.3
60°	501.9	527.4	580.9	614.9	625.9
62.5°	450.9	477.6	533.5	567.5	577.3
65°	397.4	427.8	482.5	522.6	532.3
67.5°	351.2	380.4	438.7	477.6	487.3
70°	297.7	330.6	392.5	432.6	442.4
72.5°	251.6	285.6	347.6	386.5	401.0
75°	201.7	240.6	302.6	343.9	353.6
77.5°	153.1	198.1	261.3	292.9	292.9
80°	109.4	156.8	215.1	229.7	232.1
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)