

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: P309488

Luminaire Tested: **24FCZ2-45-UNV-L82765-HRP-CP187-W2A-U-5500K**

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: P309488
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: 24FCZ2-45-UNV-L82765-HRP-CP187-W2A-U-5500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.187"
POLYCARB SHEET
Light Source: (168) 5500K 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: 3059.0 lumens
Efficiency: N/A
Efficacy: 79.0 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

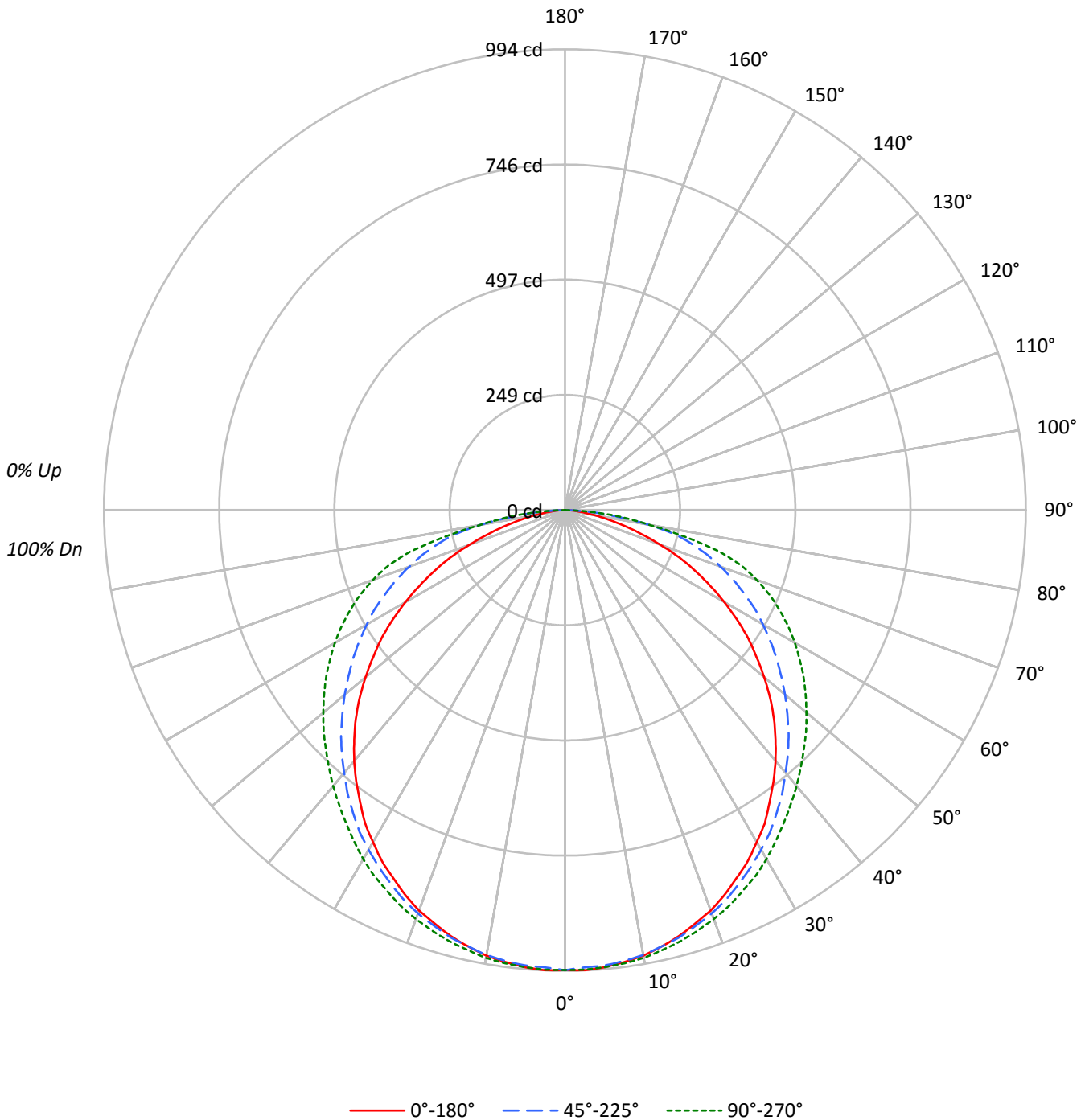
Input Watts (W): 38.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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					100			
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82					82			
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67					67			
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56					56			
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48					48			
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41					41			
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36					36			
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31					31			
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28					28			
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25					25			
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23					23			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1335	1335	1335
5°	1337	1332	1337
10°	1333	1332	1340
15°	1325	1329	1341
20°	1317	1326	1344
25°	1300	1319	1346
30°	1285	1315	1351
35°	1264	1308	1353
40°	1242	1300	1365
45°	1214	1299	1387
50°	1174	1297	1423
55°	1133	1307	1475
60°	1068	1327	1540
65°	987	1358	1627
70°	862	1406	1733
75°	699	1478	1791
80°	516	1449	1449
85°	395	1068	1206



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	94.0	3.1
10°-20°	270.0	8.8
20°-30°	411.0	13.4
30°-40°	499.1	16.3
40°-50°	527.3	17.2
50°-60°	497.6	16.3
60°-70°	413.7	13.5
70°-80°	272.2	8.9
80°-90°	74.2	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°	775.0	25.3
0°-40°	1274.1	41.7
0°-60°	2299.0	75.2
0°-90°	3059.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3059.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	992	992	992	992	992	
5°	990	990	986	990	990	94
15°	952	953	954	963	963	268
25°	876	881	889	904	907	404
35°	770	779	797	817	824	482
45°	638	651	683	716	729	491
55°	483	503	557	610	629	430
65°	310	346	426	489	511	306
75°	134	196	284	337	344	145
85°	26	56	69	77	78	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	992.5	992.5	992.5	992.5	992.5
2.5°	993.8	992.5	987.4	992.5	992.5
5°	989.9	989.9	986.1	989.9	989.9
7.5°	983.5	983.5	981.0	986.1	986.1
10°	975.8	975.8	974.6	981.0	981.0
12.5°	964.3	965.6	964.3	972.0	972.0
15°	951.5	952.8	954.1	963.0	963.0
17.5°	934.9	937.4	940.0	950.2	951.5
20°	919.5	920.8	925.9	937.4	938.7
22.5°	899.0	902.9	909.3	920.8	924.6
25°	876.0	881.1	888.8	904.1	906.7
27.5°	854.2	858.0	868.3	884.9	890.0
30°	827.3	833.7	846.5	863.2	869.6
32.5°	801.7	808.1	823.5	841.4	846.5
35°	769.7	778.6	796.6	817.0	823.5
37.5°	738.9	747.9	769.7	792.7	800.4
40°	706.9	717.2	740.2	767.1	777.3
42.5°	672.3	686.4	712.0	741.5	753.0
45°	637.8	650.6	682.6	715.9	728.7
47.5°	600.6	616.0	650.6	690.3	705.6
50°	560.9	580.1	619.8	663.4	680.0
52.5°	521.2	543.0	587.8	636.5	654.4
55°	482.8	503.3	557.1	609.6	628.8
57.5°	440.5	466.2	525.1	581.4	600.6
60°	397.0	425.2	493.0	552.0	572.4
62.5°	353.5	385.5	462.3	521.2	543.0
65°	309.9	345.8	426.5	489.2	511.0
67.5°	267.7	307.4	393.2	455.9	477.7
70°	219.0	268.9	357.3	418.8	440.5
72.5°	174.2	231.8	322.7	380.3	399.6
75°	134.5	195.9	284.3	336.8	344.5
77.5°	98.6	160.1	244.6	262.5	263.8
80°	66.6	128.1	187.0	184.4	187.0
82.5°	43.5	96.0	117.8	131.9	133.2
85°	25.6	56.3	69.2	76.8	78.1
87.5°	12.8	19.2	24.3	25.6	28.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)