

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: P310344

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-RDP-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: P310344
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 24FCZ2-60HE-UNV-L82765-RDP-CP187-W2A-U-5700K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 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: 3619.0 lumens
Efficiency: N/A
Efficacy: 74.0 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

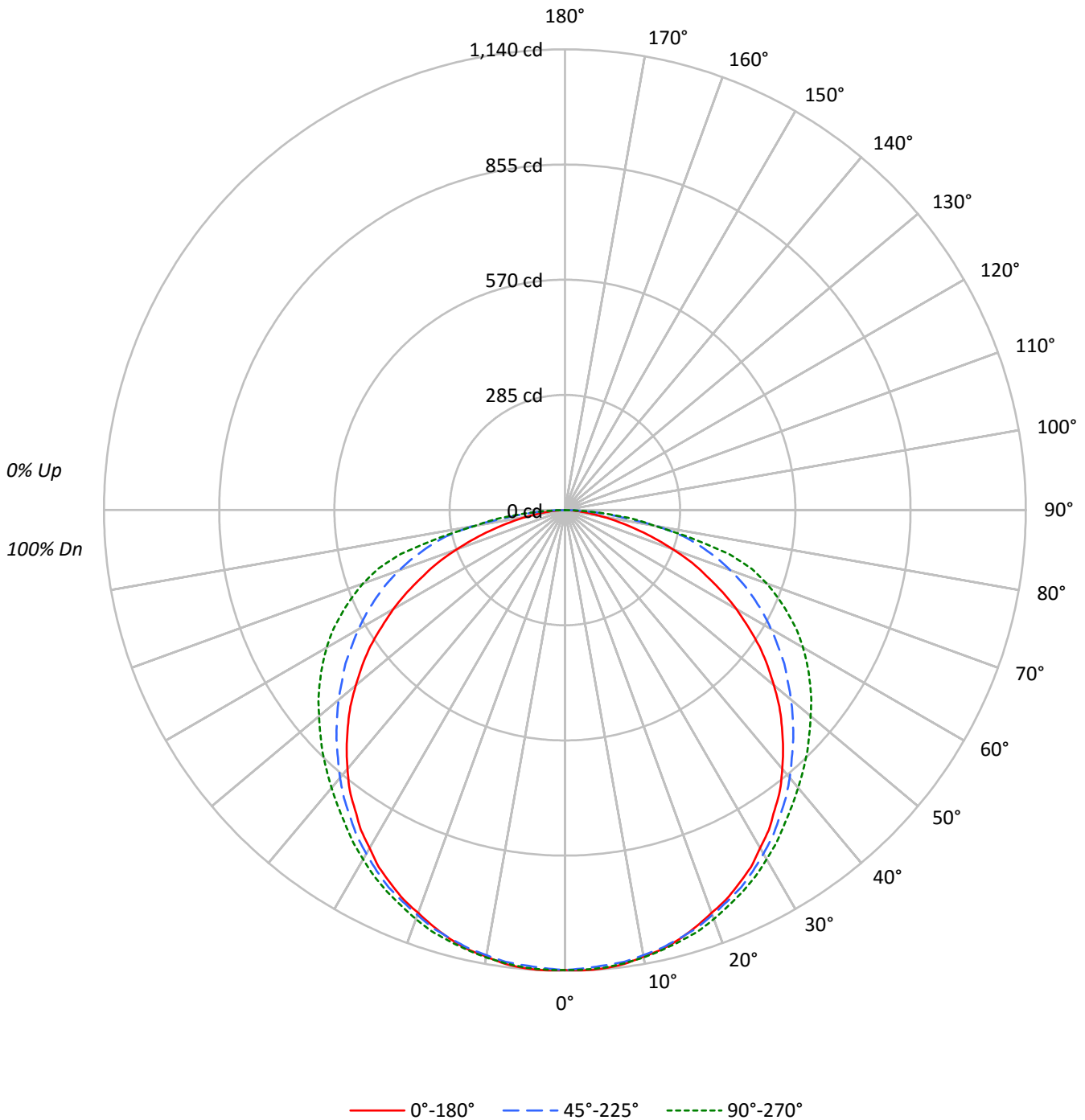
Input Watts (W): 48.9
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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				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	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1531	1531	1531
5°	1537	1527	1535
10°	1533	1528	1535
15°	1530	1528	1538
20°	1519	1527	1542
25°	1514	1530	1546
30°	1500	1526	1551
35°	1486	1521	1557
40°	1469	1520	1576
45°	1445	1520	1612
50°	1413	1529	1661
55°	1377	1554	1735
60°	1319	1584	1831
65°	1234	1640	1943
70°	1123	1716	2090
75°	952	1810	2183
80°	751	1822	1767
85°	554	1386	1551



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.0	3.0
10°-20°	310.7	8.6
20°-30°	475.1	13.1
30°-40°	580.8	16.0
40°-50°	619.0	17.1
50°-60°	591.9	16.4
60°-70°	501.4	13.9
70°-80°	337.0	9.3
80°-90°	95.1	2.6
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°	893.8	24.7
0°-40°	1474.6	40.7
0°-60°	2685.6	74.2
0°-90°	3619.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3619.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1138	1138	1138	1138	1138	
5°	1138	1136	1131	1136	1136	108
15°	1099	1099	1097	1106	1104	310
25°	1020	1023	1030	1039	1041	470
35°	905	912	926	944	948	567
45°	759	772	799	833	847	586
55°	587	608	662	714	740	523
65°	388	427	515	583	610	385
75°	183	250	348	408	420	196
85°	36	74	90	97	100	44
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1138.1	1138.1	1138.1	1138.1	1138.1
2.5°	1139.9	1139.9	1134.5	1138.1	1138.1
5°	1138.1	1136.3	1130.9	1136.3	1136.3
7.5°	1132.7	1130.9	1127.3	1132.7	1130.9
10°	1121.9	1121.9	1118.3	1123.7	1123.7
12.5°	1112.9	1111.1	1109.4	1116.5	1114.7
15°	1098.6	1098.6	1096.8	1105.8	1104.0
17.5°	1080.6	1082.4	1084.2	1091.4	1093.2
20°	1060.9	1064.5	1066.3	1077.0	1077.0
22.5°	1042.9	1044.7	1048.3	1059.1	1059.1
25°	1019.6	1023.2	1030.4	1039.3	1041.1
27.5°	996.3	998.1	1007.0	1019.6	1021.4
30°	965.7	971.1	981.9	996.3	998.1
32.5°	938.8	944.2	956.8	971.1	974.7
35°	904.7	911.9	926.3	944.2	947.8
37.5°	874.2	879.6	897.5	917.3	922.7
40°	836.5	847.3	865.2	888.6	897.5
42.5°	798.8	809.6	831.1	861.6	872.4
45°	759.3	771.9	798.8	832.9	847.3
47.5°	719.8	734.2	764.7	804.2	820.3
50°	674.9	692.9	730.6	775.5	793.4
52.5°	631.9	653.4	694.7	745.0	768.3
55°	587.0	608.5	662.4	714.4	739.6
57.5°	536.7	565.4	624.7	683.9	710.8
60°	490.1	517.0	588.8	653.4	680.3
62.5°	439.8	475.7	552.9	621.1	648.0
65°	387.7	427.2	515.2	583.4	610.3
67.5°	341.1	384.1	477.5	545.7	572.6
70°	285.4	339.3	436.2	504.4	531.3
72.5°	233.4	292.6	393.1	459.5	484.7
75°	183.1	249.5	348.2	407.5	420.0
77.5°	136.4	206.4	301.6	326.7	317.7
80°	96.9	165.1	235.2	222.6	228.0
82.5°	62.8	125.7	145.4	165.1	170.5
85°	35.9	73.6	89.8	96.9	100.5
87.5°	16.2	26.9	35.9	35.9	34.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)