

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: P310345

Luminaire Tested: **24FCZ2-60HE-UNV-L82765-RDP-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: P310345
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-6500K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 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: 3628.0 lumens
Efficiency: N/A
Efficacy: 73.0 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

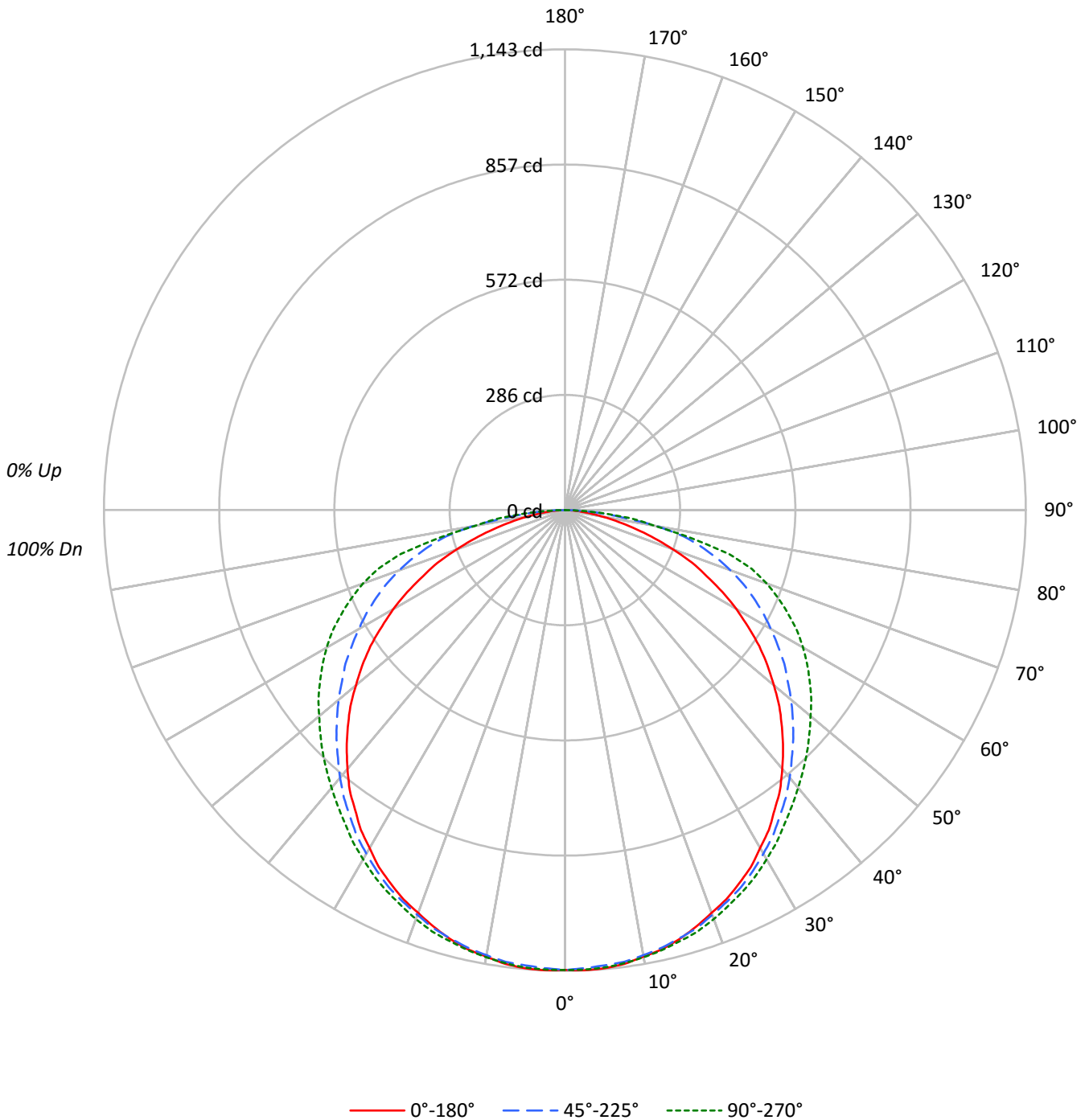
Input Watts (W): 49.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	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°	1535	1535	1535
5°	1541	1531	1539
10°	1537	1532	1539
15°	1534	1532	1542
20°	1523	1530	1546
25°	1517	1533	1549
30°	1504	1529	1554
35°	1490	1525	1561
40°	1473	1524	1580
45°	1448	1524	1616
50°	1416	1533	1665
55°	1380	1558	1739
60°	1322	1588	1835
65°	1238	1644	1948
70°	1126	1720	2096
75°	954	1815	2189
80°	753	1826	1771
85°	556	1389	1556



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	108.2	3.0
10°-20°	311.5	8.6
20°-30°	476.3	13.1
30°-40°	582.3	16.0
40°-50°	620.6	17.1
50°-60°	593.4	16.4
60°-70°	502.7	13.9
70°-80°	337.8	9.3
80°-90°	95.3	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°	896.0	24.7
0°-40°	1478.3	40.7
0°-60°	2692.2	74.2
0°-90°	3628.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3628.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1141	1141	1141	1141	1141	
5°	1141	1139	1134	1139	1139	108
15°	1101	1101	1100	1108	1107	311
25°	1022	1026	1033	1042	1044	471
35°	907	914	929	947	950	568
45°	761	774	801	835	849	587
55°	588	610	664	716	741	524
65°	389	428	516	585	612	386
75°	184	250	349	408	421	197
85°	36	74	90	97	101	45
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1140.9	1140.9	1140.9	1140.9	1140.9
2.5°	1142.7	1142.7	1137.3	1140.9	1140.9
5°	1140.9	1139.1	1133.7	1139.1	1139.1
7.5°	1135.5	1133.7	1130.1	1135.5	1133.7
10°	1124.7	1124.7	1121.1	1126.5	1126.5
12.5°	1115.7	1113.9	1112.1	1119.3	1117.5
15°	1101.3	1101.3	1099.5	1108.5	1106.7
17.5°	1083.3	1085.1	1086.9	1094.1	1095.9
20°	1063.5	1067.1	1068.9	1079.7	1079.7
22.5°	1045.5	1047.3	1050.9	1061.7	1061.7
25°	1022.1	1025.7	1032.9	1041.9	1043.7
27.5°	998.7	1000.5	1009.5	1022.1	1023.9
30°	968.1	973.5	984.3	998.7	1000.5
32.5°	941.2	946.6	959.1	973.5	977.1
35°	907.0	914.2	928.6	946.6	950.2
37.5°	876.4	881.8	899.8	919.6	925.0
40°	838.6	849.4	867.4	890.8	899.8
42.5°	800.8	811.6	833.2	863.8	874.6
45°	761.2	773.8	800.8	835.0	849.4
47.5°	721.6	736.0	766.6	806.2	822.4
50°	676.6	694.6	732.4	777.4	795.4
52.5°	633.4	655.0	696.4	746.8	770.2
55°	588.4	610.0	664.0	716.2	741.4
57.5°	538.1	566.9	626.2	685.6	712.6
60°	491.3	518.3	590.2	655.0	682.0
62.5°	440.9	476.9	554.3	622.6	649.6
65°	388.7	428.3	516.5	584.8	611.8
67.5°	341.9	385.1	478.7	547.1	574.1
70°	286.1	340.1	437.3	505.7	532.7
72.5°	233.9	293.3	394.1	460.7	485.9
75°	183.6	250.1	349.1	408.5	421.1
77.5°	136.8	206.9	302.3	327.5	318.5
80°	97.2	165.6	235.7	223.1	228.5
82.5°	63.0	126.0	145.8	165.6	171.0
85°	36.0	73.8	90.0	97.2	100.8
87.5°	16.2	27.0	36.0	36.0	34.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)