

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: P310432

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-RDP-CP187-W2A-U-5000K**

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: P310432
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: 24FCZ2-70HE-UNV-L82765-RDP-CP187-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS WITH INSERT, 0.187" POLYCARB SHEET
Light Source: (336) 5000K 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: 4177.0 lumens
Efficiency: N/A
Efficacy: 70.7 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

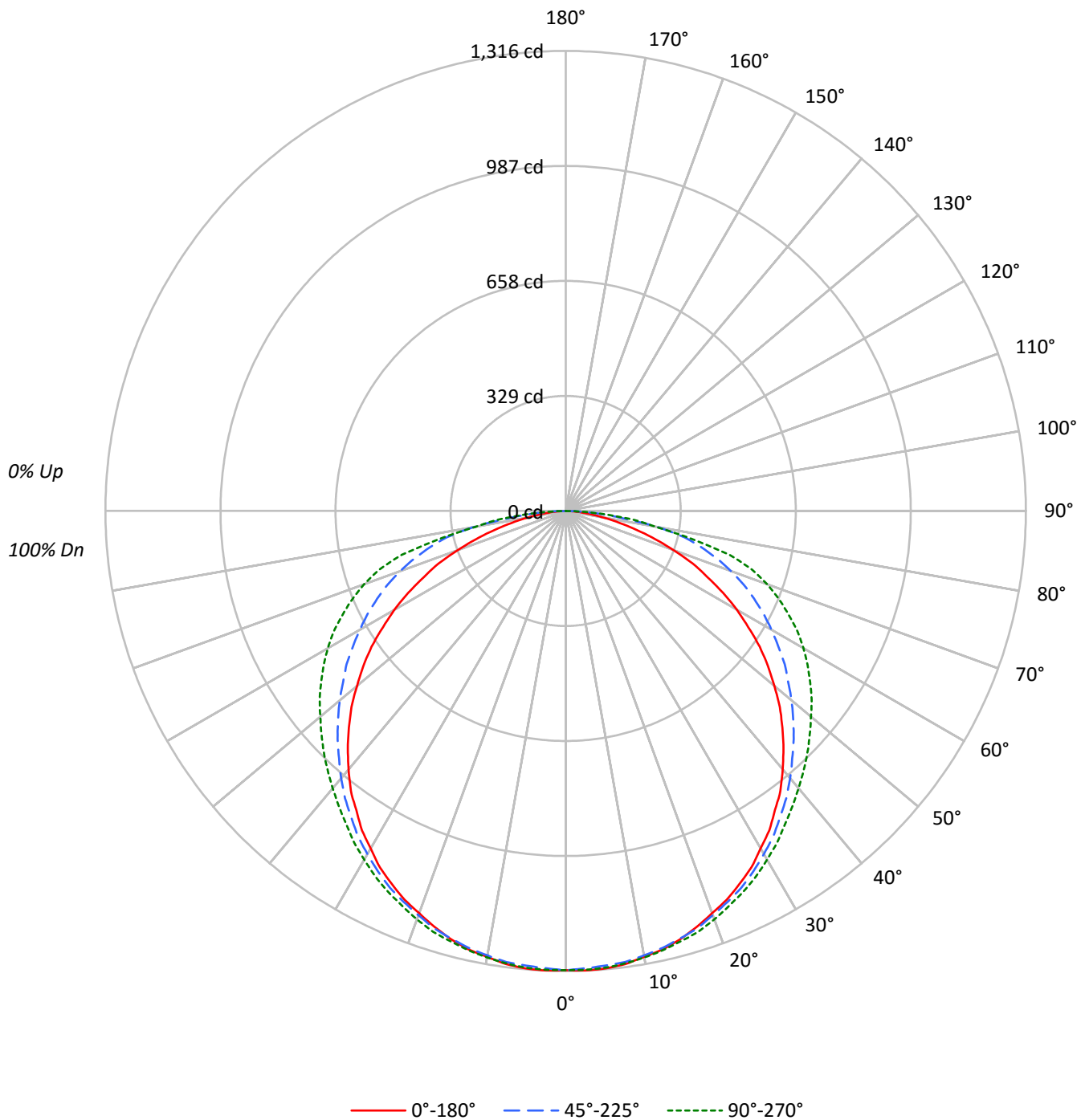
Input Watts (W): 59.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	50	30	10
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	68	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°	1767	1767	1767
5°	1774	1763	1771
10°	1769	1764	1772
15°	1766	1763	1775
20°	1753	1762	1780
25°	1747	1765	1784
30°	1732	1761	1790
35°	1715	1756	1797
40°	1696	1754	1819
45°	1668	1754	1861
50°	1631	1765	1917
55°	1589	1793	2002
60°	1522	1829	2113
65°	1425	1893	2243
70°	1296	1981	2413
75°	1098	2089	2520
80°	867	2103	2039
85°	639	1599	1791



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	124.6	3.0
10°-20°	358.6	8.6
20°-30°	548.4	13.1
30°-40°	670.4	16.0
40°-50°	714.5	17.1
50°-60°	683.2	16.4
60°-70°	578.7	13.9
70°-80°	388.9	9.3
80°-90°	109.7	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°	1031.6	24.7
0°-40°	1702.0	40.7
0°-60°	3099.6	74.2
0°-90°	4177.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4177.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1314	1314	1314	1314	1314	
5°	1314	1312	1305	1312	1312	125
15°	1268	1268	1266	1276	1274	358
25°	1177	1181	1189	1200	1202	542
35°	1044	1052	1069	1090	1094	654
45°	876	891	922	961	978	676
55°	678	702	764	825	854	603
65°	448	493	595	673	704	444
75°	211	288	402	470	485	226
85°	41	85	104	112	116	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1313.5	1313.5	1313.5	1313.5	1313.5
2.5°	1315.6	1315.6	1309.4	1313.5	1313.5
5°	1313.5	1311.5	1305.3	1311.5	1311.5
7.5°	1307.3	1305.3	1301.1	1307.3	1305.3
10°	1294.9	1294.9	1290.8	1297.0	1297.0
12.5°	1284.5	1282.5	1280.4	1288.7	1286.6
15°	1268.0	1268.0	1265.9	1276.3	1274.2
17.5°	1247.2	1249.3	1251.4	1259.7	1261.8
20°	1224.5	1228.6	1230.7	1243.1	1243.1
22.5°	1203.7	1205.8	1210.0	1222.4	1222.4
25°	1176.8	1180.9	1189.2	1199.6	1201.7
27.5°	1149.9	1151.9	1162.3	1176.8	1178.9
30°	1114.7	1120.9	1133.3	1149.9	1151.9
32.5°	1083.6	1089.8	1104.3	1120.9	1125.0
35°	1044.2	1052.5	1069.1	1089.8	1093.9
37.5°	1009.0	1015.2	1035.9	1058.7	1064.9
40°	965.5	977.9	998.6	1025.6	1035.9
42.5°	922.0	934.4	959.3	994.5	1006.9
45°	876.4	890.9	922.0	961.3	977.9
47.5°	830.8	847.4	882.6	928.2	946.8
50°	779.0	799.7	843.2	895.0	915.8
52.5°	729.3	754.2	801.8	859.8	886.7
55°	677.5	702.4	764.5	824.6	853.6
57.5°	619.5	652.6	721.0	789.4	820.4
60°	565.6	596.7	679.6	754.2	785.2
62.5°	507.6	549.0	638.1	716.9	747.9
65°	447.5	493.1	594.6	673.3	704.4
67.5°	393.6	443.4	551.1	629.8	660.9
70°	329.4	391.6	503.5	582.2	613.3
72.5°	269.3	337.7	453.7	530.4	559.4
75°	211.3	288.0	401.9	470.3	484.8
77.5°	157.5	238.3	348.1	377.1	366.7
80°	111.9	190.6	271.4	256.9	263.1
82.5°	72.5	145.0	167.8	190.6	196.8
85°	41.4	84.9	103.6	111.9	116.0
87.5°	18.6	31.1	41.4	41.4	39.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)