

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: P310435

Luminaire Tested: **24FCZ2-70HE-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: P310435
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-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: 4241.0 lumens
Efficiency: N/A
Efficacy: 70.3 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

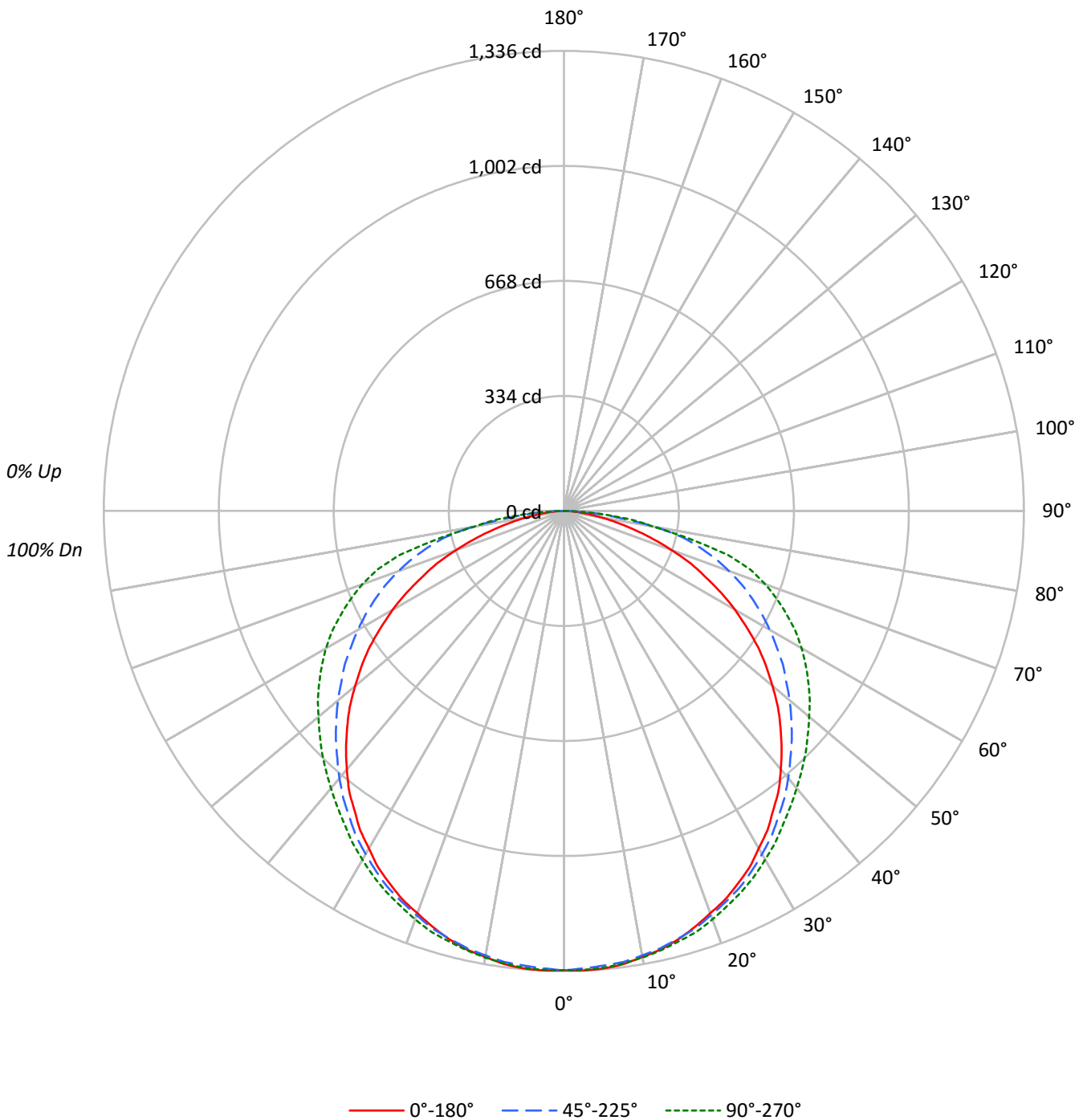
Input Watts (W): 60.3
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	1794	1794	1794
5°	1801	1790	1798
10°	1796	1790	1799
15°	1793	1790	1802
20°	1780	1789	1807
25°	1774	1793	1811
30°	1758	1788	1817
35°	1741	1783	1824
40°	1722	1781	1847
45°	1693	1781	1889
50°	1656	1792	1946
55°	1614	1821	2033
60°	1545	1857	2146
65°	1447	1922	2277
70°	1316	2011	2450
75°	1116	2122	2559
80°	880	2135	2070
85°	650	1624	1819



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.5	3.0
10°-20°	364.1	8.6
20°-30°	556.8	13.1
30°-40°	680.7	16.0
40°-50°	725.4	17.1
50°-60°	693.6	16.4
60°-70°	587.6	13.9
70°-80°	394.9	9.3
80°-90°	111.4	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°	1047.4	24.7
0°-40°	1728.1	40.7
0°-60°	3147.1	74.2
0°-90°	4241.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4241.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1334	1334	1334	1334	1334	
5°	1334	1332	1325	1332	1332	127
15°	1287	1287	1285	1296	1294	363
25°	1195	1199	1208	1218	1220	551
35°	1060	1069	1086	1106	1111	664
45°	890	904	936	976	993	686
55°	688	713	776	837	867	613
65°	454	501	604	684	715	451
75°	215	292	408	478	492	230
85°	42	86	105	114	118	52
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1333.7	1333.7	1333.7	1333.7	1333.7
2.5°	1335.8	1335.8	1329.5	1333.7	1333.7
5°	1333.7	1331.6	1325.3	1331.6	1331.6
7.5°	1327.4	1325.3	1321.1	1327.4	1325.3
10°	1314.7	1314.7	1310.5	1316.8	1316.8
12.5°	1304.2	1302.1	1300.0	1308.4	1306.3
15°	1287.4	1287.4	1285.3	1295.8	1293.7
17.5°	1266.4	1268.5	1270.6	1279.0	1281.1
20°	1243.2	1247.4	1249.5	1262.2	1262.2
22.5°	1222.2	1224.3	1228.5	1241.1	1241.1
25°	1194.8	1199.0	1207.5	1218.0	1220.1
27.5°	1167.5	1169.6	1180.1	1194.8	1196.9
30°	1131.7	1138.0	1150.7	1167.5	1169.6
32.5°	1100.2	1106.5	1121.2	1138.0	1142.2
35°	1060.2	1068.6	1085.5	1106.5	1110.7
37.5°	1024.4	1030.8	1051.8	1074.9	1081.2
40°	980.3	992.9	1013.9	1041.3	1051.8
42.5°	936.1	948.7	974.0	1009.7	1022.3
45°	889.8	904.5	936.1	976.1	992.9
47.5°	843.5	860.4	896.1	942.4	961.3
50°	790.9	812.0	856.2	908.7	929.8
52.5°	740.5	765.7	814.1	873.0	900.3
55°	687.9	713.1	776.2	837.2	866.7
57.5°	629.0	662.6	732.0	801.5	833.0
60°	574.3	605.8	690.0	765.7	797.3
62.5°	515.4	557.5	647.9	727.8	759.4
65°	454.4	500.7	603.7	683.7	715.2
67.5°	399.7	450.2	559.6	639.5	671.0
70°	334.5	397.6	511.2	591.1	622.7
72.5°	273.5	342.9	460.7	538.5	568.0
75°	214.6	292.4	408.1	477.5	492.2
77.5°	159.9	241.9	353.4	382.9	372.3
80°	113.6	193.5	275.6	260.8	267.2
82.5°	73.6	147.3	170.4	193.5	199.8
85°	42.1	86.2	105.2	113.6	117.8
87.5°	18.9	31.6	42.1	42.1	40.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)