

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: P309757

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-HRP-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: P309757
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: 24FCZ2-70HE-UNV-L82765-HRP-CP187-W2A-U-5000K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 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: 4712.0 lumens
Efficiency: N/A
Efficacy: 79.7 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

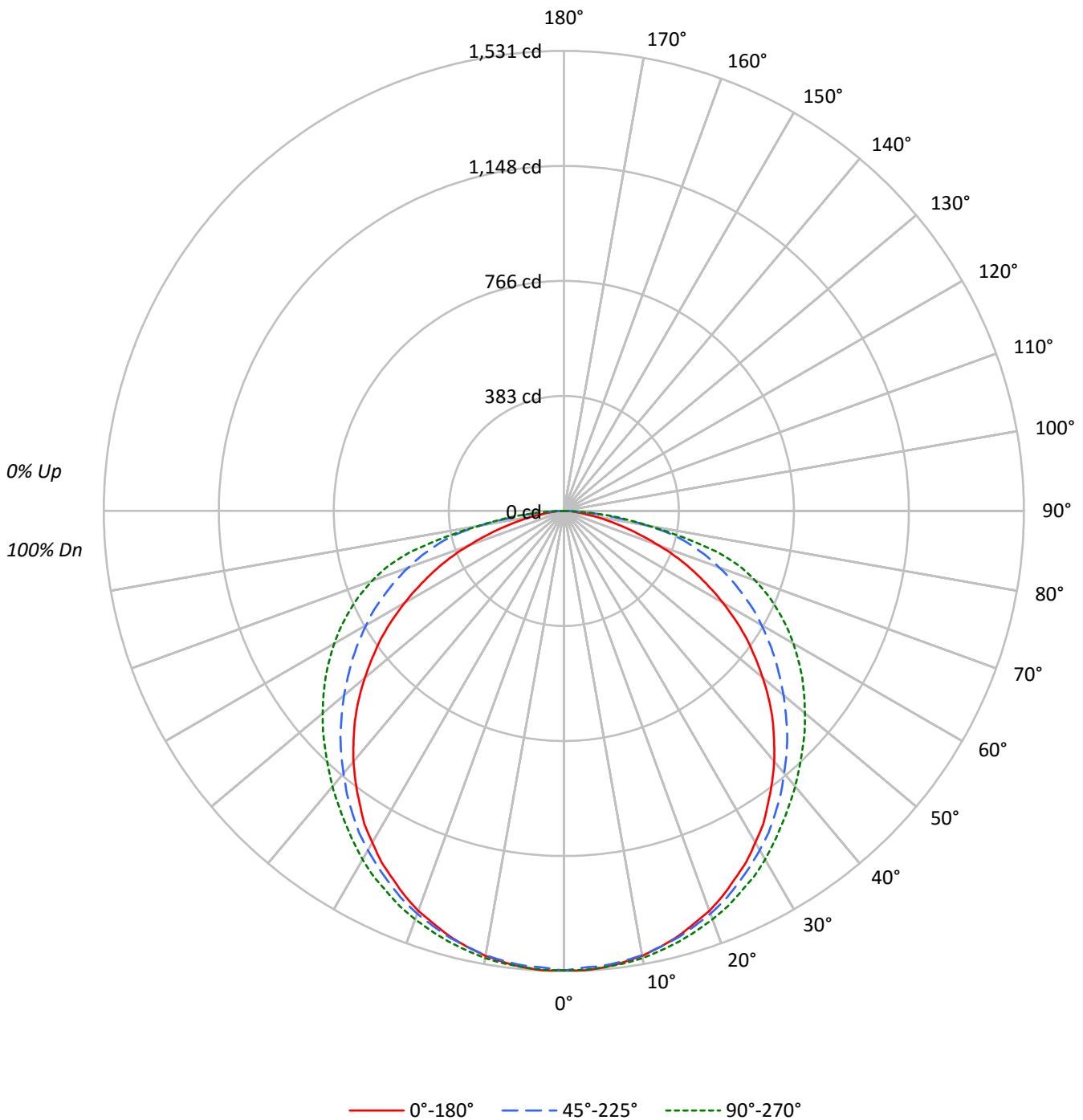
Input Watts (W): 59.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2057	2057	2057
5°	2060	2051	2060
10°	2054	2051	2065
15°	2042	2047	2066
20°	2028	2042	2070
25°	2003	2032	2073
30°	1980	2026	2081
35°	1947	2015	2083
40°	1913	2003	2103
45°	1869	2001	2136
50°	1809	1999	2193
55°	1745	2013	2272
60°	1646	2044	2373
65°	1520	2091	2506
70°	1327	2165	2670
75°	1077	2276	2758
80°	795	2232	2232
85°	610	1644	1857



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	144.8	3.1
10°-20°	415.9	8.8
20°-30°	633.1	13.4
30°-40°	768.8	16.3
40°-50°	812.2	17.2
50°-60°	766.4	16.3
60°-70°	637.2	13.5
70°-80°	419.2	8.9
80°-90°	114.3	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°	1193.8	25.3
0°-40°	1962.6	41.7
0°-60°	3541.2	75.2
0°-90°	4712.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4712.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1529	1529	1529	1529	1529	
5°	1525	1525	1519	1525	1525	145
15°	1466	1468	1470	1483	1483	413
25°	1349	1357	1369	1393	1397	622
35°	1186	1199	1227	1259	1268	742
45°	982	1002	1051	1103	1122	757
55°	744	775	858	939	969	662
65°	477	533	657	754	787	472
75°	207	302	438	519	531	223
85°	40	87	106	118	120	48
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1528.8	1528.8	1528.8	1528.8	1528.8
2.5°	1530.8	1528.8	1520.9	1528.8	1528.8
5°	1524.9	1524.9	1518.9	1524.9	1524.9
7.5°	1515.0	1515.0	1511.1	1518.9	1518.9
10°	1503.2	1503.2	1501.2	1511.1	1511.1
12.5°	1485.4	1487.4	1485.4	1497.2	1497.2
15°	1465.7	1467.7	1469.6	1483.4	1483.4
17.5°	1440.0	1444.0	1447.9	1463.7	1465.7
20°	1416.4	1418.3	1426.2	1444.0	1446.0
22.5°	1384.8	1390.7	1400.6	1418.3	1424.3
25°	1349.3	1357.2	1369.0	1392.7	1396.6
27.5°	1315.8	1321.7	1337.5	1363.1	1371.0
30°	1274.3	1284.2	1303.9	1329.6	1339.4
32.5°	1234.9	1244.7	1268.4	1296.0	1303.9
35°	1185.6	1199.4	1227.0	1258.6	1268.4
37.5°	1138.2	1152.0	1185.6	1221.1	1232.9
40°	1088.9	1104.7	1140.2	1181.6	1197.4
42.5°	1035.6	1057.3	1096.8	1142.2	1159.9
45°	982.4	1002.1	1051.4	1102.7	1122.4
47.5°	925.2	948.8	1002.1	1063.3	1086.9
50°	864.0	893.6	954.8	1021.8	1047.5
52.5°	802.9	836.4	905.5	980.4	1008.0
55°	743.7	775.3	858.1	939.0	968.6
57.5°	678.6	718.0	808.8	895.6	925.2
60°	611.5	654.9	759.5	850.2	881.8
62.5°	544.5	593.8	712.1	802.9	836.4
65°	477.4	532.6	656.9	753.6	787.1
67.5°	412.3	473.4	605.6	702.3	735.8
70°	337.3	414.3	550.4	645.1	678.6
72.5°	268.3	357.1	497.1	585.9	615.5
75°	207.1	301.8	437.9	518.8	530.6
77.5°	151.9	246.6	376.8	404.4	406.4
80°	102.6	197.3	288.0	284.1	288.0
82.5°	67.1	147.9	181.5	203.2	205.2
85°	39.5	86.8	106.5	118.4	120.3
87.5°	19.7	29.6	37.5	39.5	43.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)