

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: P313386

Luminaire Tested: **24FCZ2-70HE-UNV-L83050-HRP-CP250-W2A-U-3500K**

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: P313386
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-L83050-HRP-CP250-W2A-U-3500K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (336) 3500K 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: 4648.0 lumens
Efficiency: N/A
Efficacy: 80.6 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

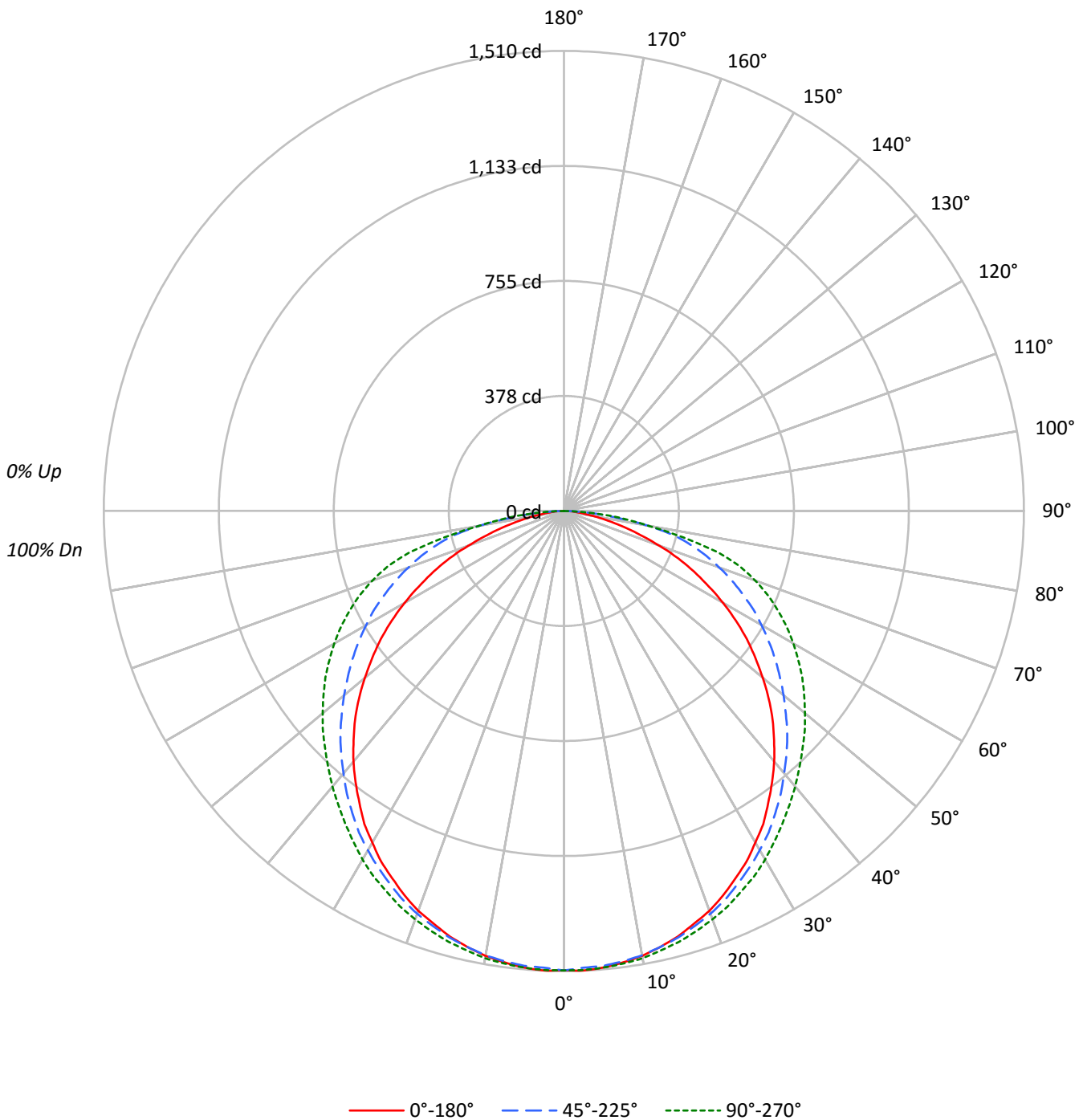
Input Watts (W): 57.7
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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°	2029	2029	2029
5°	2032	2024	2032
10°	2026	2023	2036
15°	2014	2019	2038
20°	2000	2014	2042
25°	1976	2005	2045
30°	1953	1998	2053
35°	1921	1988	2055
40°	1887	1975	2074
45°	1844	1973	2107
50°	1784	1971	2163
55°	1721	1986	2241
60°	1623	2016	2341
65°	1499	2063	2472
70°	1309	2136	2633
75°	1062	2246	2721
80°	784	2201	2201
85°	601	1623	1832



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.9	3.1
10°-20°	410.2	8.8
20°-30°	624.5	13.4
30°-40°	758.3	16.3
40°-50°	801.2	17.2
50°-60°	756.0	16.3
60°-70°	628.6	13.5
70°-80°	413.5	8.9
80°-90°	112.7	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°	1177.6	25.3
0°-40°	1936.0	41.7
0°-60°	3493.2	75.2
0°-90°	4648.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4648.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1508	1508	1508	1508	1508	
5°	1504	1504	1498	1504	1504	143
15°	1446	1448	1450	1463	1463	408
25°	1331	1339	1350	1374	1378	614
35°	1170	1183	1210	1242	1251	732
45°	969	988	1037	1088	1107	746
55°	734	765	846	926	955	653
65°	471	525	648	743	776	466
75°	204	298	432	512	523	220
85°	39	86	105	117	119	48
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1508.0	1508.0	1508.0	1508.0	1508.0
2.5°	1510.0	1508.0	1500.3	1508.0	1508.0
5°	1504.2	1504.2	1498.3	1504.2	1504.2
7.5°	1494.4	1494.4	1490.5	1498.3	1498.3
10°	1482.8	1482.8	1480.8	1490.5	1490.5
12.5°	1465.2	1467.2	1465.2	1476.9	1476.9
15°	1445.8	1447.7	1449.7	1463.3	1463.3
17.5°	1420.5	1424.4	1428.3	1443.8	1445.8
20°	1397.1	1399.1	1406.9	1424.4	1426.3
22.5°	1366.0	1371.8	1381.6	1399.1	1404.9
25°	1331.0	1338.8	1350.4	1373.8	1377.7
27.5°	1297.9	1303.7	1319.3	1344.6	1352.4
30°	1257.0	1266.8	1286.2	1311.5	1321.2
32.5°	1218.1	1227.8	1251.2	1278.4	1286.2
35°	1169.5	1183.1	1210.3	1241.5	1251.2
37.5°	1122.8	1136.4	1169.5	1204.5	1216.2
40°	1074.1	1089.7	1124.7	1165.6	1181.1
42.5°	1021.6	1043.0	1081.9	1126.7	1144.2
45°	969.0	988.5	1037.1	1087.7	1107.2
47.5°	912.6	936.0	988.5	1048.8	1072.2
50°	852.3	881.5	941.8	1008.0	1033.3
52.5°	792.0	825.0	893.2	967.1	994.3
55°	733.6	764.7	846.5	926.2	955.4
57.5°	669.4	708.3	797.8	883.4	912.6
60°	603.2	646.0	749.2	838.7	869.8
62.5°	537.1	585.7	702.5	792.0	825.0
65°	470.9	525.4	648.0	743.3	776.4
67.5°	406.7	467.0	597.4	692.7	725.8
70°	332.7	408.6	542.9	636.3	669.4
72.5°	264.6	352.2	490.4	577.9	607.1
75°	204.3	297.7	432.0	511.8	523.4
77.5°	149.8	243.2	371.7	398.9	400.8
80°	101.2	194.6	284.1	280.2	284.1
82.5°	66.2	145.9	179.0	200.4	202.4
85°	38.9	85.6	105.1	116.8	118.7
87.5°	19.5	29.2	37.0	38.9	42.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)