

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: P309761

Luminaire Tested: **24FCZ2-70HE-UNV-L82765-HRP-CP250-W2A-U-2700K**

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: P309761
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-CP250-W2A-U-2700K
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"
POLYCARB SHEET
Light Source: (336) 2700K 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: 4165.0 lumens
Efficiency: N/A
Efficacy: 72.2 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

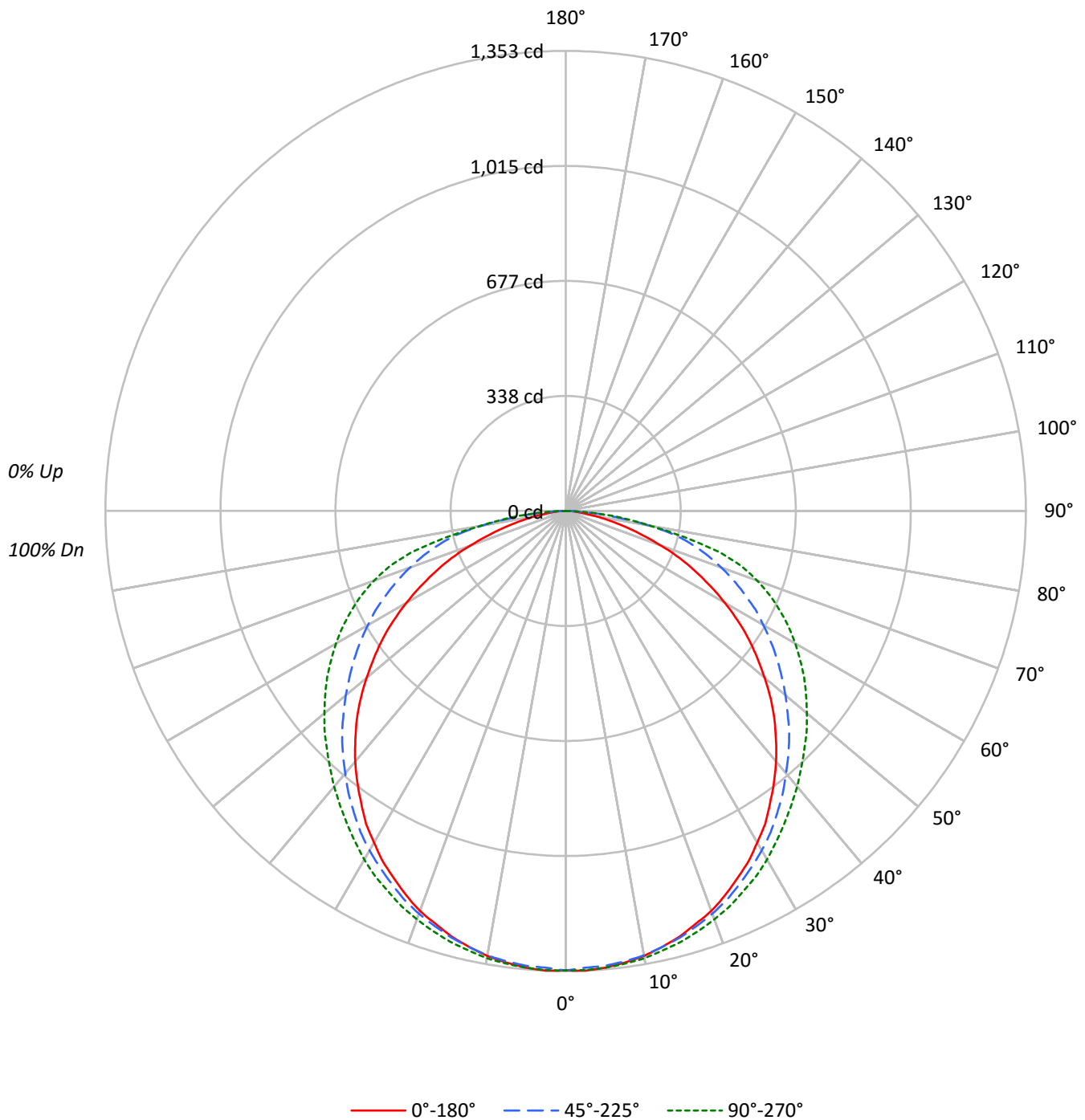
Input Watts (W): 57.7
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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					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	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°	1818	1818	1818
5°	1821	1813	1821
10°	1815	1813	1825
15°	1805	1809	1826
20°	1793	1805	1830
25°	1771	1796	1833
30°	1750	1791	1839
35°	1721	1781	1842
40°	1691	1770	1859
45°	1652	1768	1888
50°	1599	1766	1938
55°	1542	1779	2008
60°	1454	1806	2097
65°	1344	1848	2215
70°	1173	1914	2360
75°	952	2012	2438
80°	703	1973	1973
85°	539	1454	1643



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.0	3.1
10°-20°	367.6	8.8
20°-30°	559.6	13.4
30°-40°	679.5	16.3
40°-50°	717.9	17.2
50°-60°	677.4	16.3
60°-70°	563.3	13.5
70°-80°	370.6	8.9
80°-90°	101.0	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°	1055.3	25.3
0°-40°	1734.8	41.7
0°-60°	3130.2	75.2
0°-90°	4165.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4165.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1351	1351	1351	1351	1351	
5°	1348	1348	1343	1348	1348	128
15°	1296	1297	1299	1311	1311	365
25°	1193	1200	1210	1231	1234	550
35°	1048	1060	1085	1112	1121	656
45°	868	886	929	975	992	669
55°	657	685	758	830	856	586
65°	422	471	581	666	696	417
75°	183	267	387	459	469	197
85°	35	77	94	105	106	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1351.3	1351.3	1351.3	1351.3	1351.3
2.5°	1353.1	1351.3	1344.4	1351.3	1351.3
5°	1347.9	1347.9	1342.6	1347.9	1347.9
7.5°	1339.1	1339.1	1335.6	1342.6	1342.6
10°	1328.7	1328.7	1326.9	1335.6	1335.6
12.5°	1313.0	1314.7	1313.0	1323.4	1323.4
15°	1295.5	1297.3	1299.0	1311.2	1311.2
17.5°	1272.9	1276.4	1279.8	1293.8	1295.5
20°	1251.9	1253.7	1260.7	1276.4	1278.1
22.5°	1224.1	1229.3	1238.0	1253.7	1258.9
25°	1192.7	1199.6	1210.1	1231.0	1234.5
27.5°	1163.0	1168.3	1182.2	1204.9	1211.8
30°	1126.4	1135.1	1152.6	1175.2	1183.9
32.5°	1091.5	1100.3	1121.2	1145.6	1152.6
35°	1047.9	1060.1	1084.6	1112.5	1121.2
37.5°	1006.1	1018.3	1047.9	1079.3	1089.8
40°	962.5	976.5	1007.8	1044.5	1058.4
42.5°	915.4	934.6	969.5	1009.6	1025.3
45°	868.3	885.8	929.4	974.7	992.1
47.5°	817.8	838.7	885.8	939.8	960.8
50°	763.7	789.9	843.9	903.2	925.9
52.5°	709.7	739.3	800.3	866.6	891.0
55°	657.4	685.3	758.5	830.0	856.1
57.5°	599.8	634.7	714.9	791.6	817.8
60°	540.5	578.9	671.3	751.5	779.4
62.5°	481.3	524.8	629.5	709.7	739.3
65°	422.0	470.8	580.6	666.1	695.7
67.5°	364.4	418.5	535.3	620.7	650.4
70°	298.2	366.2	486.5	570.2	599.8
72.5°	237.1	315.6	439.4	517.9	544.0
75°	183.1	266.8	387.1	458.6	469.0
77.5°	134.3	218.0	333.0	357.5	359.2
80°	90.7	174.4	254.6	251.1	254.6
82.5°	59.3	130.8	160.4	179.6	181.3
85°	34.9	76.7	94.2	104.6	106.4
87.5°	17.4	26.2	33.1	34.9	38.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)