

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: P313338

Luminaire Tested: **24FCZ2-60HE-UNV-L83050-HRP-CP250-W2A-U-4500K**

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: P313338  
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: 24FCZ2-60HE-UNV-L83050-HRP-CP250-W2A-U-4500K  
Description: 2'X4' TROFFER LED MODULE, HIGH EFFICIENCY RND PERF. LENS, 0.250"  
POLYCARB SHEET  
Light Source: (336) 4500K 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: 4214.0 lumens  
Efficiency: N/A  
Efficacy: 84.4 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

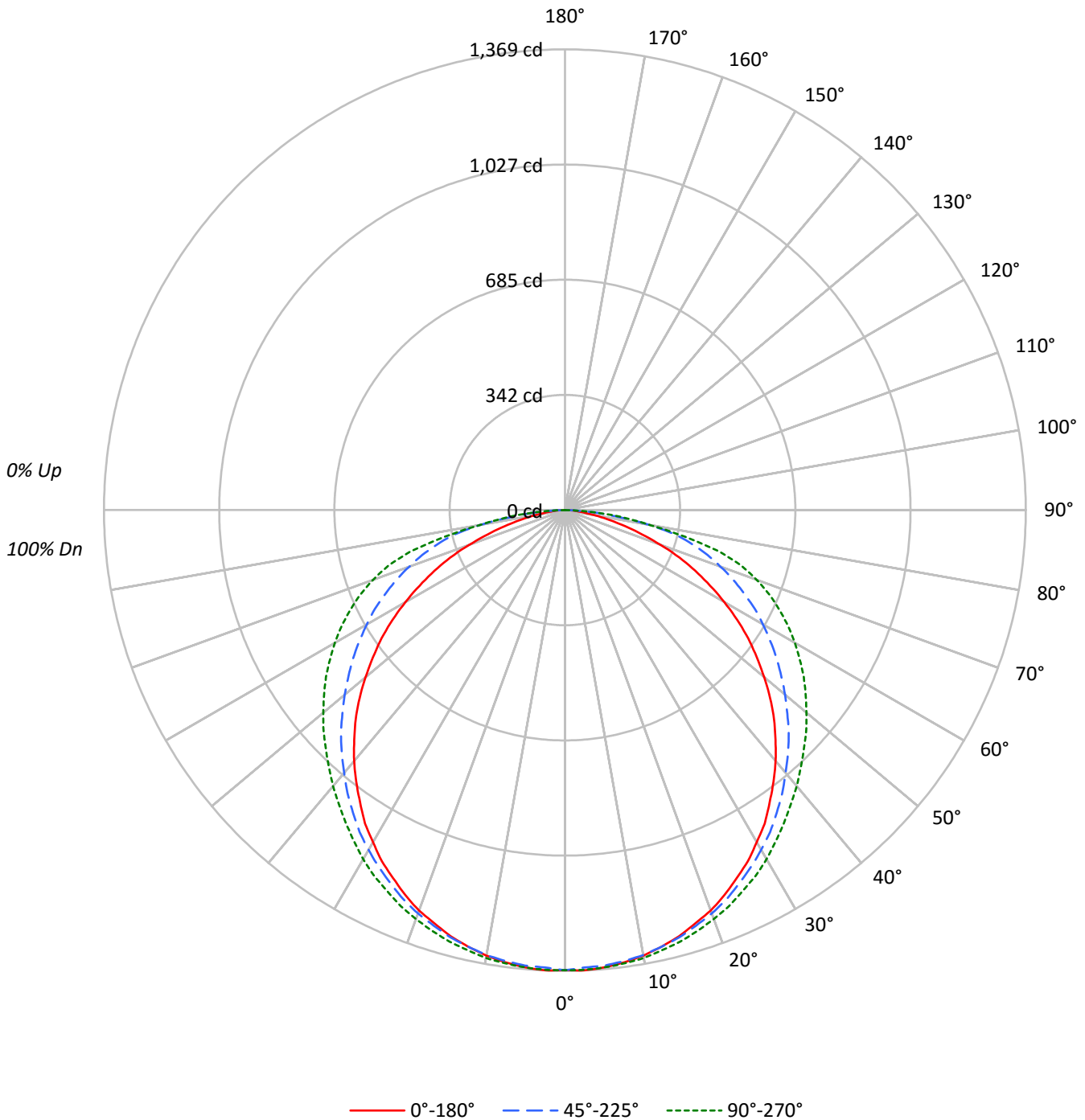
Input Watts (W): 49.9  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	108	103	98	94	105	101	96	93	96	93	90	92	90	87	89	86	84	82				82
2	98	89	82	76	95	87	80	75	83	78	73	80	75	71	77	73	70	67				67
3	89	78	69	62	86	76	68	62	73	66	61	70	64	59	68	63	58	56				56
4	81	68	59	52	79	67	59	52	65	57	51	62	56	50	60	54	50	48				48
5	74	61	52	45	72	60	51	45	58	50	44	56	49	44	54	48	43	41				41
6	69	55	46	39	67	54	45	39	52	44	38	50	43	38	49	42	38	36				36
7	63	50	41	34	62	49	40	34	47	39	34	46	39	34	44	38	33	31				31
8	59	45	36	30	57	44	36	30	43	36	30	42	35	30	41	34	30	28				28
9	55	41	33	27	54	41	33	27	40	32	27	39	32	27	38	31	27	25				25
10	52	38	30	25	50	38	30	25	37	30	25	36	29	24	35	29	24	23				23

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1840	1840	1840
5°	1842	1835	1842
10°	1837	1834	1846
15°	1826	1831	1848
20°	1814	1826	1852
25°	1791	1818	1854
30°	1771	1812	1861
35°	1742	1802	1863
40°	1710	1791	1881
45°	1672	1789	1910
50°	1617	1787	1961
55°	1560	1800	2032
60°	1472	1828	2122
65°	1359	1870	2241
70°	1187	1936	2388
75°	963	2036	2467
80°	711	1996	1996
85°	545	1471	1661



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	129.5	3.1
10°-20°	371.9	8.8
20°-30°	566.2	13.4
30°-40°	687.5	16.3
40°-50°	726.4	17.2
50°-60°	685.4	16.3
60°-70°	569.9	13.5
70°-80°	374.9	8.9
80°-90°	102.2	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°	1067.7	25.3
0°-40°	1755.2	41.7
0°-60°	3167.0	75.2
0°-90°	4214.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4214.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1367	1367	1367	1367	1367	
5°	1364	1364	1358	1364	1364	130
15°	1311	1312	1314	1327	1327	370
25°	1207	1214	1224	1246	1249	557
35°	1060	1073	1097	1126	1134	664
45°	879	896	940	986	1004	677
55°	665	693	767	840	866	592
65°	427	476	588	674	704	422
75°	185	270	392	464	475	200
85°	35	78	95	106	108	43
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1367.2	1367.2	1367.2	1367.2	1367.2
2.5°	1369.0	1367.2	1360.2	1367.2	1367.2
5°	1363.7	1363.7	1358.4	1363.7	1363.7
7.5°	1354.9	1354.9	1351.4	1358.4	1358.4
10°	1344.3	1344.3	1342.5	1351.4	1351.4
12.5°	1328.4	1330.2	1328.4	1339.0	1339.0
15°	1310.8	1312.5	1314.3	1326.7	1326.7
17.5°	1287.8	1291.4	1294.9	1309.0	1310.8
20°	1266.7	1268.4	1275.5	1291.4	1293.1
22.5°	1238.5	1243.7	1252.6	1268.4	1273.7
25°	1206.7	1213.8	1224.3	1245.5	1249.0
27.5°	1176.7	1182.0	1196.1	1219.0	1226.1
30°	1139.7	1148.5	1166.1	1189.1	1197.9
32.5°	1104.4	1113.2	1134.4	1159.1	1166.1
35°	1060.3	1072.6	1097.3	1125.5	1134.4
37.5°	1017.9	1030.3	1060.3	1092.0	1102.6
40°	973.8	987.9	1019.7	1056.7	1070.9
42.5°	926.2	945.6	980.9	1021.5	1037.3
45°	878.6	896.2	940.3	986.2	1003.8
47.5°	827.4	848.6	896.2	950.9	972.1
50°	772.7	799.2	853.9	913.8	936.8
52.5°	718.0	748.0	809.8	876.8	901.5
55°	665.1	693.3	767.4	839.7	866.2
57.5°	606.9	642.2	723.3	800.9	827.4
60°	546.9	585.7	679.2	760.4	788.6
62.5°	486.9	531.0	636.9	718.0	748.0
65°	426.9	476.3	587.5	673.9	703.9
67.5°	368.7	423.4	541.6	628.0	658.0
70°	301.7	370.5	492.2	576.9	606.9
72.5°	239.9	319.3	444.6	524.0	550.4
75°	185.2	269.9	391.6	464.0	474.6
77.5°	135.8	220.5	337.0	361.7	363.4
80°	91.7	176.4	257.6	254.0	257.6
82.5°	60.0	132.3	162.3	181.7	183.5
85°	35.3	77.6	95.3	105.9	107.6
87.5°	17.6	26.5	33.5	35.3	38.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)