

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: 168P236

Luminaire Tested: **NEORAY F23X WALLWASH PROTOTYPE**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: 168P236  
Test Lab: METALUX LABORATORIES  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: NEORAY F23X WALLWASH PROTOTYPE  
Description: FORMED STEEL AND EXTRUDED ALUMINUM HOUSING, FORMED SPECULAR ALUMINUM REFLECTOR (BOTH KICKER&TOP REFLECTOR) WITH FORMED BLACK ENAMEL SECTION IN FRONT OF LAMP  
Light Source: ONE - PHILIPS - F54T5/841HO - 5000 LUMENS - 54 WATTS  
Ballast/Driver: -

**Summary**

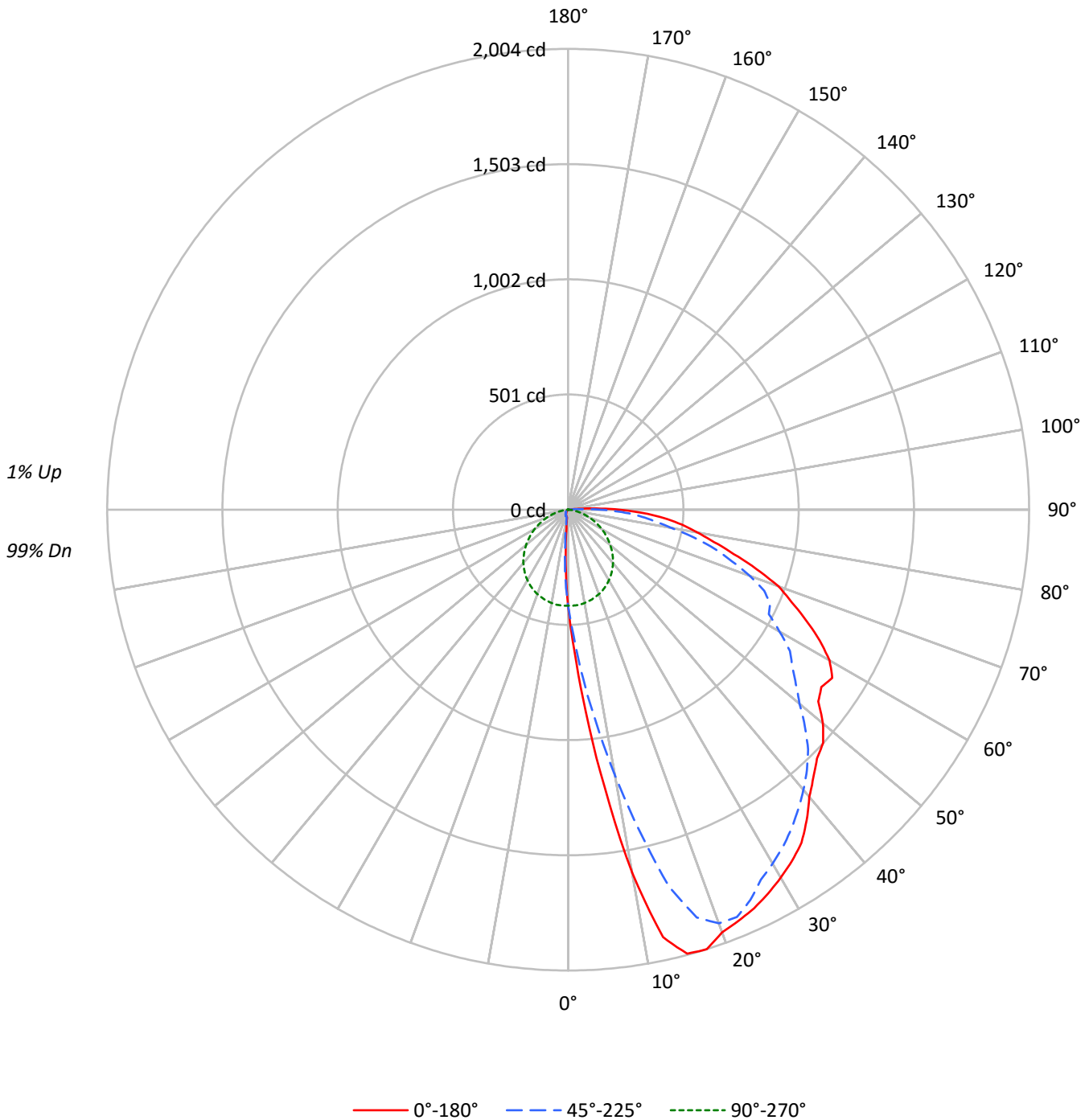
Lumens per Lamp: 5000 (1 lamp)  
Luminaire Lumens: 3085.5 lumens  
Efficiency: 61.7%  
Efficacy: 54.1 lumens/watt  
Spacing Criteria (0/90/45): 2.3 / 1.26 / 2.09  
Luminous Opening: Rectangular (W 3.92' x L: 0.21' x H: 0')  
CIE Type: Direct

Input Watts (W): 57  
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	73	73	73	73	72	72	72	72	68	68	68	65	65	65	63	63	63	61
1	66	62	59	56	64	61	58	55	58	56	53	55	54	52	53	52	50	49
2	59	53	49	45	57	52	48	44	50	46	43	48	45	42	46	43	41	39
3	53	46	41	36	52	45	40	36	43	39	35	41	38	34	40	36	34	32
4	49	41	35	30	47	40	34	30	38	33	29	36	32	29	35	31	28	27
5	44	36	30	25	43	35	29	25	34	29	25	32	28	25	31	27	24	23
6	41	32	26	22	40	31	26	22	30	25	21	29	25	21	28	24	21	20
7	38	29	23	19	37	28	23	19	27	22	19	26	22	19	25	21	18	17
8	35	26	21	17	34	26	20	17	25	20	17	24	20	16	23	19	16	15
9	33	24	19	15	32	23	18	15	23	18	15	22	18	15	21	17	14	13
10	30	22	17	13	30	22	17	13	21	16	13	20	16	13	20	16	13	12

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

	0°	90°	180°
0°	5501	5501	5501
5°	11693	5522	1099
10°	21512	5519	429
15°	27300	5504	410
20°	27459	5489	379
25°	27830	5444	306
30°	28149	5392	244
35°	28472	5314	225
40°	28086	5218	241
45°	28543	5074	205
50°	29675	4905	185
55°	30910	4692	161
60°	34615	4459	132
65°	35677	4120	62
70°	37490	3703	39
75°	38022	3211	51
80°	43301	2431	76
85°	63418	1362	151



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	47.9	1.6	1.0
10°-20°	216.0	7.0	4.3
20°-30°	385.4	12.5	7.7
30°-40°	494.9	16.0	9.9
40°-50°	524.4	17.0	10.5
50°-60°	503.0	16.3	10.1
60°-70°	439.2	14.2	8.8
70°-80°	304.6	9.9	6.1
80°-90°	149.6	4.8	3.0
90°-100°	20.3	0.7	0.4
100°-110°	0.2	0.0	0.0
110°-120°	0.0	0.0	0.0
120°-130°	0.0	0.0	0.0
130°-140°	0.0	0.0	0.0
140°-150°	0.0	0.0	0.0
150°-160°	0.0	0.0	0.0
160°-170°	0.0	0.0	0.0
170°-180°	0.0	0.0	0.0
0°-30°	649.3	21.0	13.0
0°-40°	1144.2	37.1	22.9
0°-60°	2171.6	70.4	43.4
0°-90°	3065.1	99.3	61.3
90°-120°	20.5	0.7	0.4
90°-150°	20.5	0.7	0.4
90°-180°	20.0	0.6	0.4
0°-180°	3085.5	100.0	61.7

**CANDELA DISTRIBUTION:**

	0°	45°	90°	135°	180°	Flux
0°	417	417	417	417	417	
5°	883	734	417	152	83	107
15°	1999	1698	403	31	30	549
25°	1912	1873	374	27	21	882
35°	1768	1692	330	19	14	1100
45°	1530	1475	272	13	11	1189
55°	1344	1189	204	10	7	1223
65°	1143	968	132	5	2	1132
75°	746	661	63	1	1	798
85°	419	310	9	1	1	372
90°	222	144	2	1	1	123
95°	46	6	2	1	1	30
105°	0	0	0	0	0	0
115°	0	0	0	0	0	0
125°	0	0	0	0	0	0
135°	0	0	0	0	0	0
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	417	417	417	417	417	417	417	417	417
2.5°	610	593	551	490	418	347	290	254	241
5°	883	840	734	585	417	260	152	99	83
7.5°	1220	1140	933	681	416	181	66	42	37
10°	1606	1473	1172	780	412	121	39	32	32
12.5°	1904	1811	1429	884	408	75	32	31	31
15°	1999	1957	1698	997	403	50	31	30	30
17.5°	2004	1995	1859	1126	397	39	30	29	28
20°	1956	1962	1914	1254	391	33	29	28	27
22.5°	1935	1914	1917	1377	383	31	28	26	24
25°	1912	1893	1873	1515	374	30	27	23	21
27.5°	1882	1862	1814	1610	365	29	25	20	19
30°	1848	1827	1777	1654	354	28	23	18	16
32.5°	1811	1787	1738	1656	343	27	21	16	15
35°	1768	1744	1692	1630	330	26	19	14	14
37.5°	1703	1695	1643	1586	317	26	17	14	14
40°	1631	1626	1591	1514	303	25	15	13	14
42.5°	1578	1553	1536	1435	288	23	14	13	13
45°	1530	1499	1475	1361	272	22	13	13	11
47.5°	1503	1452	1396	1294	256	21	13	11	10
50°	1446	1419	1313	1223	239	19	13	9	9
52.5°	1370	1354	1248	1147	221	18	12	8	8
55°	1344	1277	1189	1073	204	16	10	8	7
57.5°	1361	1249	1143	1000	186	15	9	7	7
60°	1312	1257	1062	928	169	14	7	6	5
62.5°	1233	1194	983	846	150	13	6	5	4
65°	1143	1112	968	748	132	12	5	3	2
67.5°	1052	1021	922	676	114	11	4	2	1
70°	972	934	839	618	96	9	3	1	1
72.5°	858	844	747	540	79	7	2	1	1
75°	746	729	661	457	63	5	1	1	1
77.5°	649	624	560	414	47	3	1	1	1
80°	570	539	456	334	32	2	1	1	1
82.5°	499	468	375	257	19	2	1	1	1
85°	419	393	310	177	9	2	1	1	1
87.5°	327	304	233	121	3	2	1	1	1
90°	222	203	144	61	2	2	1	1	1
92.5°	123	106	58	6	2	2	1	1	1
95°	46	33	6	2	2	2	1	1	1
97.5°	3	2	2	2	2	2	2	1	1
100°	2	1	2	2	2	2	1	1	1
102.5°	0	0	0	0	0	0	0	0	0
105°	0	0	0	0	0	0	0	0	0
107.5°	0	0	0	0	0	0	0	0	0
110°	0	0	0	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
112.5°	0	0	0	0	0	0	0	0	0
115°	0	0	0	0	0	0	0	0	0
117.5°	0	0	0	0	0	0	0	0	0
120°	0	0	0	0	0	0	0	0	0
122.5°	0	0	0	0	0	0	0	0	0
125°	0	0	0	0	0	0	0	0	0
127.5°	0	0	0	0	0	0	0	0	0
130°	0	0	0	0	0	0	0	0	0
132.5°	0	0	0	0	0	0	0	0	0
135°	0	0	0	0	0	0	0	0	0
137.5°	0	0	0	0	0	0	0	0	0
140°	0	0	0	0	0	0	0	0	0
142.5°	0	0	0	0	0	0	0	0	0
145°	0	0	0	0	0	0	0	0	0
147.5°	0	0	0	0	0	0	0	0	0
150°	0	0	0	0	0	0	0	0	0
152.5°	0	0	0	0	0	0	0	0	0
155°	0	0	0	0	0	0	0	0	0
157.5°	0	0	0	0	0	0	0	0	0
160°	0	0	0	0	0	0	0	0	0
162.5°	0	0	0	0	0	0	0	0	0
165°	0	0	0	0	0	0	0	0	0
167.5°	0	0	0	0	0	0	0	0	0
170°	0	0	0	0	0	0	0	0	0
172.5°	0	0	0	0	0	0	0	0	0
175°	0	0	0	0	0	0	0	0	0
177.5°	0	0	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0	0	0

(END OF REPORT)