

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P644657

Luminaire Tested: OMN4DIP-SR4F0-100D75U940-BBMOOB-1DUDD-WW

Issue Date: 9/2/2020



**Test Information**

Test Method: LM-79-2019  
Report Number: P644657  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2203-563-26, G2-2206-689-23)  
Test Lab: INNOVATION CENTER  
Issue Date: 9/2/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: OMN4DIP-SR4F0-100D75U940-BBMOOB-1DUDD-WW  
Description: NEO-RAY CIRQUE 4-INCH DIAMETER LINEAR LED LUMINAIRE  
DOWNLIGHT - BLACK BAFFLE WITH MEDIUM OPTIC - 1000 LUMENS PER FOOT  
UPLIGHT - BATWING OPTIC - 750 LUMENS PER FOOT  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

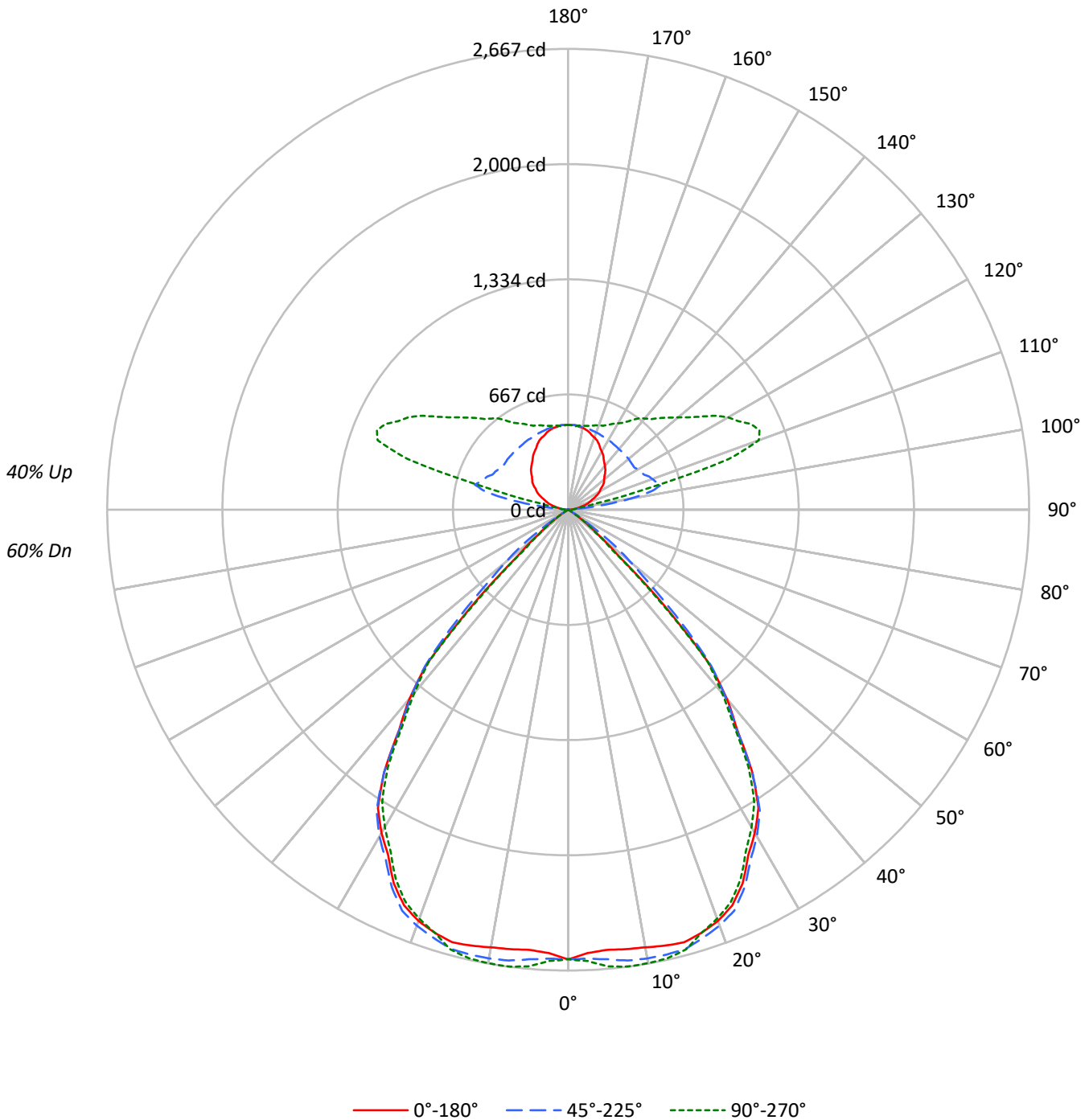
Lumens per Lamp: N/A  
Luminaire Lumens: 6635.0 lumens  
Efficiency: N/A  
Efficacy: 112.6 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.21 / 1.18  
Luminous Opening: Rectangular (W 0.21' x L: 4' x H: 0')  
CIE Type: Semi-Direct

Input Watts (W): 58.9  
Input Voltage (V): 120  
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: 24 FT

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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	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	50	30	10	0														
RCR																																						
0	110	110	110	110	102	102	102	102	89	89	89	77	77	77	66	66	66	60																				
1	102	99	96	93	96	93	90	88	82	80	78	71	70	69	62	61	60	55																				
2	95	89	84	80	89	84	80	76	75	71	69	66	63	61	57	56	54	51																				
3	89	81	75	70	83	76	71	67	68	64	61	60	57	55	53	51	49	46																				
4	83	73	67	62	77	70	64	59	62	58	54	56	52	49	49	47	45	42																				
5	77	67	60	55	72	64	57	53	57	52	49	51	48	45	46	43	41	38																				
6	72	61	54	49	67	58	52	47	53	48	44	47	43	41	42	40	37	35																				
7	67	56	49	44	63	53	47	43	48	43	40	44	40	37	39	36	34	32																				
8	63	52	45	40	59	49	43	39	45	40	36	41	37	34	37	34	31	29																				
9	59	48	41	36	55	46	39	35	42	37	33	38	34	31	34	31	29	27																				
10	55	44	38	33	52	42	36	32	39	34	30	35	31	28	32	29	27	25																				

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

	0°	45°	90°
0°	33609	33609	33609
5°	33158	33869	34396
10°	33728	34580	34953
15°	34659	35175	35230
20°	34816	35208	34621
25°	34015	34392	33639
30°	32204	32567	31629
35°	29274	29274	28665
40°	24077	23837	23325
45°	14396	16919	13728
50°	4654	9429	4367
55°	1646	3157	1646
60°	106	891	52
65°	61	61	0
70°	76	0	0
75°	0	0	0
80°	0	0	0
85°	296	0	0

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 45°  
 Vertical Angle: 45°  
 Luminance: 16919 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	250.3	3.8
10°-20°	740.7	11.2
20°-30°	1096.2	16.5
30°-40°	1133.0	17.1
40°-50°	659.2	9.9
50°-60°	111.7	1.7
60°-70°	4.4	0.1
70°-80°	0.6	0.0
80°-90°	1.7	0.0
90°-100°	60.4	0.9
100°-110°	430.1	6.5
110°-120°	583.9	8.8
120°-130°	475.3	7.2
130°-140°	382.3	5.8
140°-150°	301.4	4.5
150°-160°	220.3	3.3
160°-170°	136.9	2.1
170°-180°	46.7	0.7
0°-30°	2087.2	31.5
0°-40°	3220.2	48.5
0°-60°	3991.1	60.2
0°-90°	3997.8	60.3
90°-120°	1074.4	16.2
90°-150°	2233.3	33.7
90°-180°	2637.0	39.7
0°-180°	6635.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2602	2602	2602	2602	2602	
5°	2557	2625	2612	2619	2653	245
15°	2592	2683	2630	2617	2634	729
25°	2387	2466	2413	2340	2360	1090
35°	1856	1886	1856	1810	1818	1137
45°	788	917	926	894	752	609
55°	73	85	140	79	73	81
65°	2	2	2	0	0	2
75°	0	2	0	0	0	1
85°	2	2	0	0	0	1
90°	0	3	6	9	9	1
95°	25	46	25	28	34	28
105°	96	147	559	714	472	101
115°	170	206	482	1001	1170	169
125°	244	277	454	794	939	217
135°	303	336	457	654	750	233
145°	358	388	460	570	630	225
155°	420	435	469	516	540	193
165°	466	472	482	494	503	131
175°	491	494	491	488	485	46
180°	491	491	491	491	491	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2602.0	2602.0	2602.0	2602.0	2602.0
2.5°	2567.8	2618.7	2600.3	2602.3	2615.0
5°	2557.3	2624.8	2612.1	2619.0	2652.8
7.5°	2565.0	2633.3	2631.6	2633.6	2666.6
10°	2571.5	2643.0	2636.5	2635.2	2664.9
12.5°	2584.5	2662.4	2636.5	2633.4	2658.4
15°	2591.8	2683.2	2630.4	2616.6	2634.5
17.5°	2567.0	2668.7	2597.1	2560.3	2567.4
20°	2532.9	2636.2	2561.4	2506.8	2518.7
22.5°	2479.3	2577.8	2511.0	2443.5	2458.6
25°	2386.7	2466.1	2413.1	2340.4	2360.3
27.5°	2255.0	2317.8	2284.3	2213.9	2226.2
30°	2159.2	2210.8	2183.5	2114.6	2120.6
32.5°	2048.7	2092.4	2063.3	2004.0	2003.6
35°	1856.5	1886.3	1856.5	1810.0	1817.9
37.5°	1605.1	1627.7	1597.3	1569.4	1573.4
40°	1427.9	1445.8	1413.7	1387.2	1383.3
42.5°	1206.9	1256.6	1225.2	1189.2	1194.8
45°	788.1	917.2	926.2	894.5	751.5
47.5°	397.3	538.3	644.7	489.2	350.6
50°	231.6	317.0	469.2	259.0	217.3
52.5°	151.9	188.1	327.8	163.7	144.2
55°	73.1	85.0	140.2	79.1	73.1
57.5°	25.2	38.7	62.2	39.5	28.0
60°	4.1	16.0	34.5	12.0	2.0
62.5°	2.4	4.8	21.5	2.4	0.4
65°	2.0	2.0	2.0	0.0	0.0
67.5°	2.0	2.0	0.0	0.0	0.0
70°	2.0	2.0	0.0	0.0	0.0
72.5°	2.0	2.0	0.0	0.0	0.0
75°	0.0	2.0	0.0	0.0	0.0
77.5°	0.0	2.0	0.0	0.0	0.0
80°	0.0	2.0	0.0	0.0	0.0
82.5°	0.0	2.0	0.0	0.0	0.0
85°	2.0	2.0	0.0	0.0	0.0
87.5°	1.6	2.2	1.2	1.9	1.9
90°	0.0	3.0	6.2	9.3	9.3
92.5°	7.4	10.4	13.6	19.2	21.6
95°	24.7	45.8	24.7	27.9	34.0
97.5°	43.8	87.9	181.6	53.6	46.3
100°	58.7	110.0	364.3	107.2	71.0
102.5°	73.5	127.2	492.8	283.0	155.0
105°	95.7	147.0	558.9	713.9	472.4
107.5°	117.9	156.6	533.5	1039.0	973.2
110°	132.8	169.0	518.7	1091.8	1173.3



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	147.6	183.8	503.9	1060.9	1198.0
115°	169.8	206.0	481.7	1001.2	1170.2
117.5°	192.7	228.3	476.1	936.4	1110.3
120°	210.0	243.2	466.2	887.2	1068.3
122.5°	222.3	257.9	453.9	844.9	1011.5
125°	243.9	277.1	453.9	793.7	938.6
127.5°	261.8	295.6	454.5	734.4	877.5
130°	271.7	307.9	457.0	694.7	830.6
132.5°	284.1	320.3	457.0	676.9	788.6
135°	302.6	335.8	457.0	653.7	750.3
137.5°	318.0	353.7	457.0	628.1	710.8
140°	330.4	363.6	457.0	613.1	688.5
142.5°	342.7	373.5	459.4	595.7	666.3
145°	358.2	388.4	460.1	569.5	629.9
147.5°	376.7	403.3	463.8	550.7	597.2
150°	389.0	413.2	466.2	538.1	577.4
152.5°	401.4	423.1	466.2	528.1	560.1
155°	419.9	435.0	469.3	516.2	540.3
157.5°	434.7	449.2	473.0	508.6	526.1
160°	444.6	456.7	475.5	503.6	518.7
162.5°	452.0	464.1	478.0	501.0	511.3
165°	466.2	472.3	481.7	494.2	503.3
167.5°	474.3	479.7	484.8	491.1	496.5
170°	481.7	484.7	484.8	491.0	494.0
172.5°	484.1	489.6	487.2	488.5	491.6
175°	490.9	494.0	490.9	487.8	484.8
177.5°	490.9	493.4	490.9	490.9	488.5
180°	490.9	490.9	490.9	490.9	490.9

(END OF REPORT)