

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: P644567

Luminaire Tested: OMN4DIP-SR4F0-100D150U940-BBMOOB-1DUDD-WW

Issue Date: 9/2/2020



**Test Information**

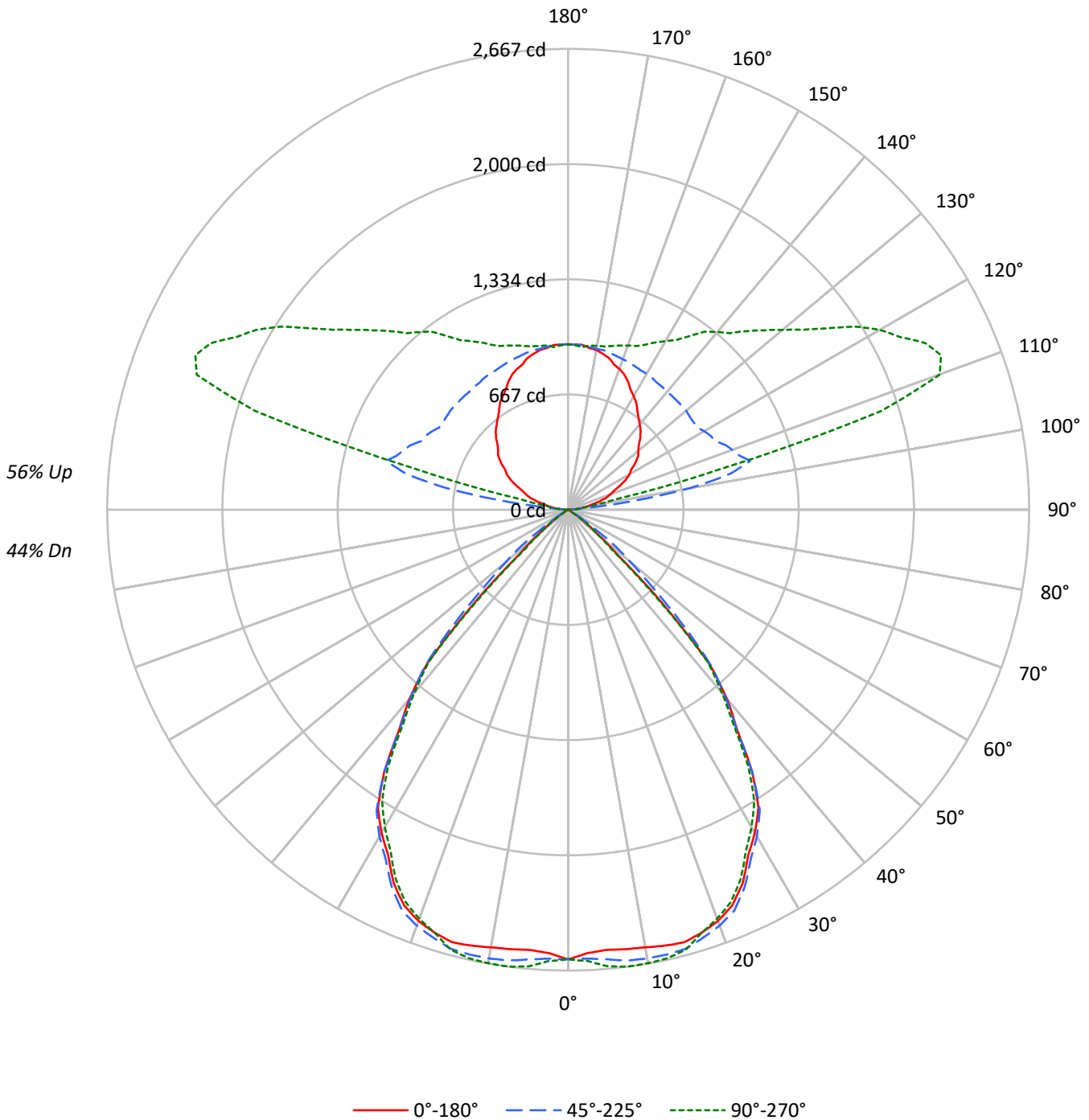
Test Method: LM-79-2019  
Report Number: P644567  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2203-563-26, G2-2206-689-23)  
Test Lab: INNOVATION CENTER  
Issue Date: 9/2/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: OMN4DIP-SR4F0-100D150U940-BBMOOB-1DUDD-WW  
Description: NEO-RAY CIRQUE 4-INCH DIAMETER LINEAR LED LUMINAIRE  
DOWNLIGHT - BLACK BAFFLE WITH MEDIUM OPTIC - 1000 LUMENS PER FOOT  
UPLIGHT - BATWING OPTIC - 1500 LUMENS PER FOOT  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 9139.1 lumens  
Efficiency: N/A  
Efficacy: 105.4 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: General Diffuse  
  
Input Watts (W): 86.7  
Input Voltage (V): 120  
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: 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					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	106	106	106	106	97	97	97	97	80	80	80	64	64	64	50	50	50	44				
1	98	94	91	88	90	87	84	82	72	71	69	59	58	57	47	46	46	40				
2	91	85	79	75	83	78	74	70	66	63	60	54	52	51	44	43	41	37				
3	84	76	70	65	77	70	65	61	60	56	53	50	47	45	40	39	37	33				
4	78	69	62	57	71	64	58	53	54	50	47	46	43	40	37	36	34	30				
5	72	62	55	50	66	58	52	47	49	45	41	42	39	36	35	33	31	28				
6	67	56	49	44	62	53	46	42	45	41	37	39	35	33	32	30	28	25				
7	62	51	44	39	57	48	42	37	42	37	33	36	32	29	30	27	26	23				
8	58	47	40	35	54	44	38	34	38	34	30	33	29	27	28	25	23	21				
9	54	43	37	32	50	41	35	30	35	31	27	31	27	25	26	23	22	20				
10	51	40	33	29	47	38	32	28	33	28	25	28	25	22	24	22	20	18				

**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	2.7
10°-20°	740.7	8.1
20°-30°	1096.2	12.0
30°-40°	1133.0	12.4
40°-50°	659.2	7.2
50°-60°	111.7	1.2
60°-70°	4.4	0.0
70°-80°	0.6	0.0
80°-90°	2.7	0.0
90°-100°	117.7	1.3
100°-110°	838.3	9.2
110°-120°	1138.2	12.5
120°-130°	926.4	10.1
130°-140°	745.1	8.2
140°-150°	587.4	6.4
150°-160°	429.5	4.7
160°-170°	266.8	2.9
170°-180°	91.0	1.0
0°-30°	2087.2	22.8
0°-40°	3220.2	35.2
0°-60°	3991.1	43.7
0°-90°	3998.9	43.8
90°-120°	2094.2	22.9
90°-150°	4353.0	47.6
90°-180°	5140.0	56.2
0°-180°	9139.1	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	6	12	18	18	2
95°	48	89	48	54	66	54
105°	187	287	1089	1392	921	197
115°	331	402	939	1951	2281	329
125°	475	540	885	1547	1830	422
135°	590	654	891	1274	1462	454
145°	698	757	897	1110	1228	438
155°	818	848	915	1006	1053	376
165°	909	920	939	963	981	255
175°	957	963	957	951	945	90
180°	957	957	957	957	957	



TEST NUMBER: P644567

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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	2.8	2.4	3.6	3.6
90°	0.0	5.9	12.0	18.1	18.1
92.5°	14.4	20.3	26.5	37.4	42.1
95°	48.1	89.3	48.1	54.4	66.2
97.5°	85.5	171.4	353.9	104.4	90.3
100°	114.3	214.4	710.2	209.0	138.4
102.5°	143.2	248.0	960.5	551.6	302.1
105°	186.6	286.6	1089.3	1391.5	920.8
107.5°	229.9	305.2	1039.9	2025.2	1896.9
110°	258.8	329.4	1011.1	2128.0	2286.9



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	287.7	358.3	982.2	2067.9	2335.1
115°	331.0	401.6	938.8	1951.4	2280.9
117.5°	375.5	445.0	928.0	1825.2	2164.2
120°	409.2	474.0	908.8	1729.2	2082.3
122.5°	433.3	502.7	884.7	1646.7	1971.6
125°	475.4	540.2	884.7	1547.1	1829.5
127.5°	510.3	576.3	885.9	1431.5	1710.4
130°	529.6	600.2	890.7	1354.1	1618.9
132.5°	553.7	624.3	890.7	1319.3	1537.1
135°	589.8	654.5	890.7	1274.1	1462.4
137.5°	619.9	689.3	890.7	1224.2	1385.4
140°	643.9	708.7	890.7	1195.0	1342.1
142.5°	668.0	728.0	895.5	1161.0	1298.7
145°	698.1	757.0	896.7	1110.0	1227.7
147.5°	734.2	786.0	903.9	1073.3	1163.9
150°	758.3	805.4	908.8	1048.9	1125.4
152.5°	782.4	824.7	908.8	1029.3	1091.7
155°	818.5	847.9	914.8	1006.1	1053.2
157.5°	847.4	875.6	922.0	991.4	1025.5
160°	866.6	890.2	926.8	981.6	1011.1
162.5°	881.1	904.6	931.6	976.6	996.6
165°	908.8	920.5	938.8	963.3	981.0
167.5°	924.4	935.0	944.9	957.1	967.7
170°	938.8	944.7	944.9	957.0	962.9
172.5°	943.7	954.2	949.7	952.2	958.1
175°	956.9	962.8	956.9	950.7	944.9
177.5°	956.9	961.6	956.9	956.8	952.1
180°	956.9	956.9	956.9	956.9	956.9

(END OF REPORT)