

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: P644396

Luminaire Tested: CRQ4DIP-SR4F0-75D100U935-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644396
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2203-563-26, G2-2206-689-14)
Test Lab: INNOVATION CENTER
Issue Date: 2/20/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: CRQ4DIP-SR4F0-75D100U935-FLLOOB-1DUDD-WW
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE
DOWNLIGHT - CURVED FROSTED LENS - 750 LUMENS PER FOOT
UPLIGHT - BATWING OPTIC - 1000 LUMENS PER FOOT
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

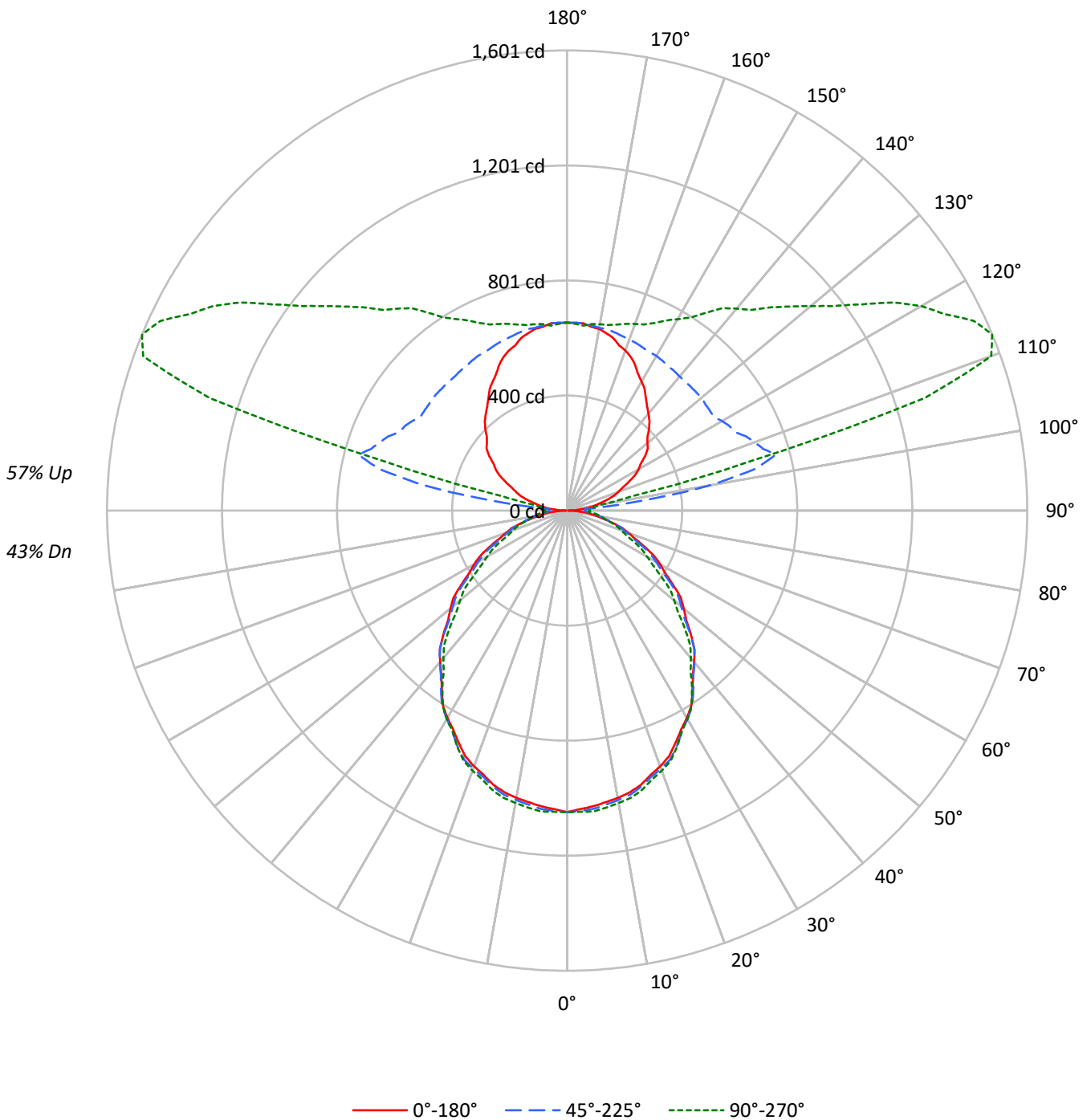
Lumens per Lamp: N/A
Luminaire Lumens: 6218.6 lumens
Efficiency: N/A
Efficacy: 122.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')
CIE Type: General Diffuse

Input Watts (W): 50.8
Input Voltage (V): 120
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: 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	105	105	105	105	96	96	96	96	79	79	79	64	64	64	49	49	49	43	43	43	43	43	43	43														
1	96	92	88	84	88	84	80	77	69	67	65	56	54	53	43	42	41	36	36	36	36	36	36	36														
2	87	80	74	69	80	73	68	64	61	57	54	49	46	44	38	36	35	30	30	30	30	30	30	30														
3	80	70	63	57	73	65	58	53	54	49	45	43	40	37	34	32	30	25	25	25	25	25	25	25														
4	73	62	55	49	66	57	50	45	48	43	39	39	35	32	30	28	26	22	22	22	22	22	22	22														
5	67	56	48	42	61	51	44	39	43	37	33	35	31	28	27	25	22	19	19	19	19	19	19	19														
6	62	50	42	36	56	46	39	34	38	33	29	31	27	24	25	22	20	17	17	17	17	17	17	17														
7	57	45	37	32	52	41	34	30	35	29	26	29	25	22	23	20	18	15	15	15	15	15	15	15														
8	53	41	33	28	48	38	31	26	32	26	23	26	22	19	21	18	16	13	13	13	13	13	13	13														
9	49	37	30	25	45	34	28	23	29	24	20	24	20	17	19	16	14	12	12	12	12	12	12	12														
10	46	34	27	22	42	32	25	21	27	22	18	22	18	16	18	15	13	11	11	11	11	11	11	11														

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16939	16939	16939
5°	16618	14956	14492
10°	16400	13306	12518
15°	16159	11916	10950
20°	15789	10689	9577
25°	15297	9546	8345
30°	14812	8435	7244
35°	14156	7418	6218
40°	13543	6494	5270
45°	12836	5582	4399
50°	12087	4727	3608
55°	11295	3978	2910
60°	10537	3260	2326
65°	9604	2600	1841
70°	8708	2037	1454
75°	7613	1565	1147
80°	6364	1164	893
85°	4640	846	679

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 12836 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.0	1.6
10°-20°	281.0	4.5
20°-30°	414.8	6.7
30°-40°	476.9	7.7
40°-50°	462.6	7.4
50°-60°	387.3	6.2
60°-70°	279.0	4.5
70°-80°	170.5	2.7
80°-90°	84.3	1.4
90°-100°	113.2	1.8
100°-110°	584.8	9.4
110°-120°	781.9	12.6
120°-130°	634.7	10.2
130°-140°	509.3	8.2
140°-150°	401.4	6.5
150°-160°	293.5	4.7
160°-170°	182.3	2.9
170°-180°	62.2	1.0
0°-30°	794.8	12.8
0°-40°	1271.7	20.4
0°-60°	2121.6	34.1
0°-90°	2655.3	42.7
90°-120°	1479.9	23.8
90°-150°	3025.3	48.6
90°-180°	3563.0	57.3
0°-180°	6218.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1049	1049	1049	1049	1049	
5°	1033	1052	1042	1043	1051	98
15°	988	1003	994	999	1006	278
25°	892	906	904	900	905	411
35°	760	772	765	757	757	476
45°	609	615	605	587	578	469
55°	449	455	439	412	399	403
65°	296	298	283	262	255	295
75°	160	160	163	158	156	171
85°	49	59	82	87	87	52
90°	4	33	62	75	76	7
95°	48	74	64	79	88	49
105°	142	202	752	964	646	150
115°	237	279	644	1336	1562	235
125°	331	372	606	1057	1250	294
135°	403	447	609	871	999	310
145°	477	517	613	758	839	300
155°	559	579	625	688	720	257
165°	621	629	642	658	670	174
175°	654	658	654	650	646	62
180°	654	654	654	654	654	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1049.1	1049.1	1049.1	1049.1	1049.1
2.5°	1039.6	1054.7	1045.5	1047.9	1049.1
5°	1032.8	1051.6	1041.7	1043.3	1050.6
7.5°	1023.3	1040.7	1031.9	1033.9	1042.3
10°	1015.0	1032.4	1022.4	1025.5	1032.8
12.5°	1004.3	1020.6	1012.9	1016.0	1023.3
15°	988.3	1002.8	994.3	998.9	1006.1
17.5°	964.6	980.3	971.1	973.7	980.9
20°	946.8	961.3	955.7	955.9	963.1
22.5°	925.5	941.1	936.8	933.4	941.8
25°	892.0	906.5	903.9	899.6	905.3
27.5°	858.8	869.5	864.5	860.1	864.5
30°	832.7	845.8	837.2	832.8	837.2
32.5°	804.3	817.3	808.7	803.2	805.2
35°	760.1	771.7	764.6	757.2	757.2
37.5°	718.4	725.9	721.0	708.5	705.3
40°	687.5	696.2	689.0	674.1	669.7
42.5°	655.5	664.2	655.8	639.7	633.0
45°	609.0	614.8	604.6	586.6	577.9
47.5°	561.0	567.1	553.0	533.2	522.8
50°	529.0	536.2	518.6	497.6	486.0
52.5°	498.2	503.1	486.6	462.1	451.6
55°	449.0	454.8	438.6	411.6	398.6
57.5°	403.0	408.5	389.4	363.7	353.5
60°	373.4	377.7	358.6	331.7	321.5
62.5°	340.2	344.6	326.6	303.2	293.1
65°	296.3	297.8	283.0	262.1	254.9
67.5°	255.2	255.2	242.7	227.2	221.4
70°	226.7	226.7	217.8	205.8	200.0
72.5°	200.6	199.5	194.1	185.7	181.1
75°	160.0	160.0	163.0	158.5	155.6
77.5°	124.5	122.1	134.8	134.2	132.8
80°	100.8	100.8	117.1	120.0	118.5
82.5°	79.4	81.7	102.8	106.9	105.5
85°	48.9	59.0	81.5	87.4	87.4
87.5°	22.2	40.7	65.7	74.2	74.5
90°	4.4	33.1	61.6	74.6	76.1
92.5°	19.1	36.1	62.0	78.4	84.2
95°	47.7	74.4	64.0	78.7	88.2
97.5°	76.2	125.9	264.3	102.5	94.6
100°	95.9	154.1	503.1	168.1	122.7
102.5°	114.5	175.9	669.4	397.4	228.7
105°	142.3	202.0	751.8	964.3	645.5
107.5°	170.1	213.2	714.8	1392.3	1306.1
110°	188.7	229.7	693.9	1460.2	1570.2



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	208.4	249.4	674.1	1416.7	1600.7
115°	236.6	279.0	644.5	1336.4	1561.6
117.5°	265.2	308.6	636.8	1248.4	1480.1
120°	287.1	328.4	622.5	1181.7	1422.9
122.5°	303.5	346.9	606.0	1125.3	1347.3
125°	330.8	372.2	606.0	1057.2	1250.2
127.5°	352.9	396.8	606.8	978.2	1168.8
130°	364.9	413.1	610.1	925.3	1106.3
132.5°	378.9	427.2	609.0	901.6	1050.3
135°	403.0	447.3	608.7	870.7	999.3
137.5°	423.6	471.0	608.7	836.5	946.7
140°	440.0	484.3	608.7	816.6	917.1
142.5°	456.5	497.5	611.9	793.4	887.5
145°	477.1	517.3	612.8	758.5	839.0
147.5°	501.7	537.1	617.7	733.4	795.4
150°	518.2	550.4	621.0	716.8	769.0
152.5°	534.6	563.6	621.0	703.4	746.0
155°	559.3	579.4	625.1	687.5	719.7
157.5°	579.0	598.3	630.0	677.5	700.8
160°	592.2	608.3	633.3	670.8	690.9
162.5°	602.1	618.2	636.6	667.4	681.0
165°	621.0	629.0	641.6	658.3	670.3
167.5°	631.7	638.9	645.7	654.1	661.3
170°	641.6	645.6	645.7	654.0	658.0
172.5°	644.8	652.1	649.0	650.7	654.7
175°	653.9	657.9	653.9	649.7	645.7
177.5°	653.9	657.1	653.9	653.8	650.6
180°	653.9	653.9	653.9	653.9	653.9

(END OF REPORT)