

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: P644360

Luminaire Tested: CRQ4DIP-SR4F0-50D25U935-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644360
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-SR4F0-50D25U935-FLLOOB-1DUDD-WW
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE
DOWNLIGHT - CURVED FROSTED LENS - 500 LUMENS PER FOOT
UPLIGHT - BATWING OPTIC - 250 LUMENS PER FOOT
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

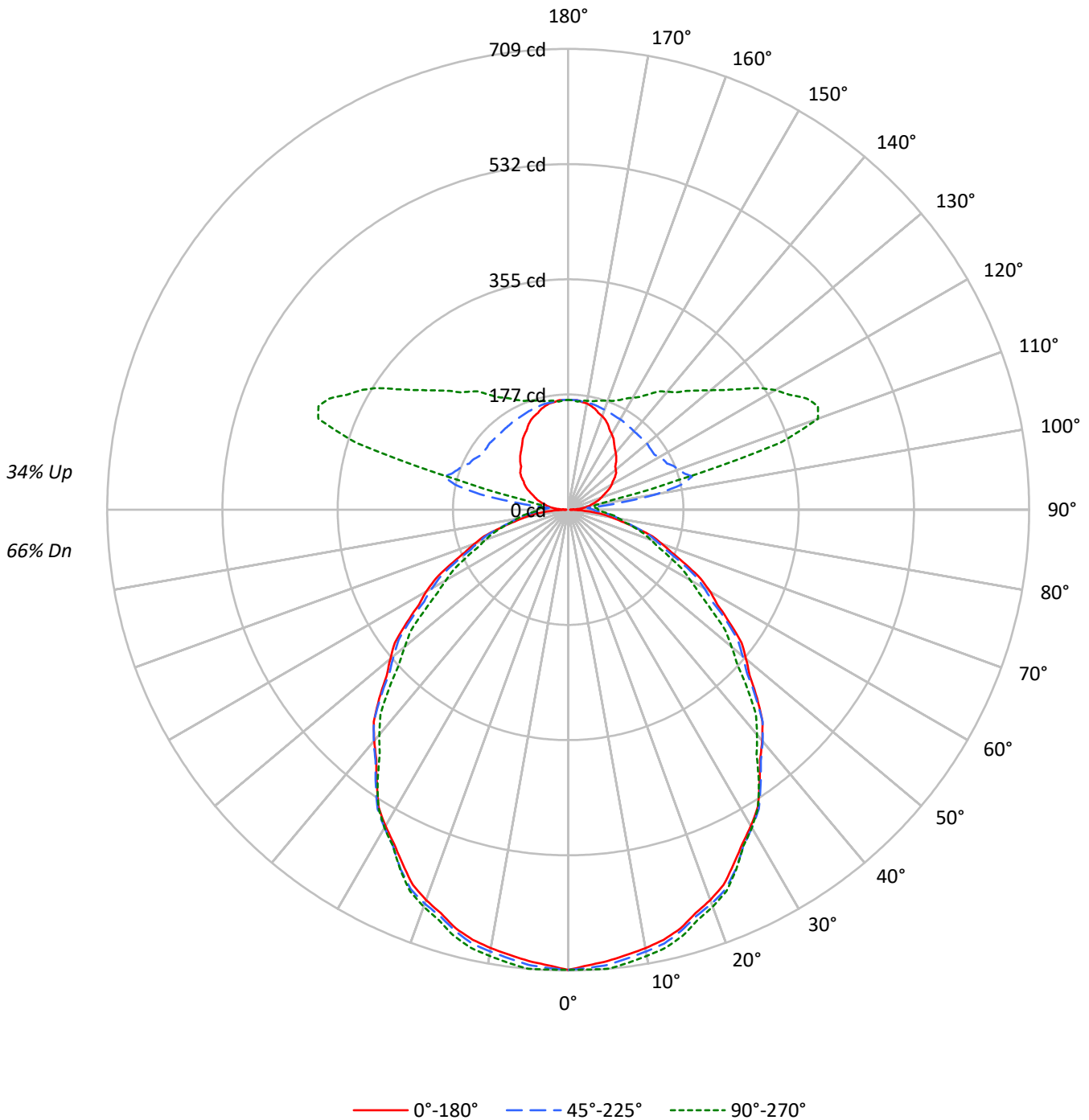
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2733.7 lumens
Efficiency: N/A
Efficacy: 121.0 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: Semi-Direct

Input Watts (W): 22.6
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

TEST NUMBER: P644360
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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	111	111	111	111	104	104	104	104	92	92	92	81	81	81	70	70	70	66				
1	101	96	92	89	95	91	87	84	80	78	75	71	69	67	62	60	59	55				
2	92	84	78	73	86	80	74	69	71	66	62	62	59	56	55	52	50	46				
3	84	74	67	61	79	70	63	58	62	57	53	55	51	47	48	45	43	39				
4	77	66	58	52	72	62	55	49	56	50	45	49	45	41	43	40	37	34				
5	71	59	51	44	66	56	48	43	50	44	39	44	39	36	39	35	32	29				
6	65	53	45	39	61	50	43	37	45	39	34	40	35	31	36	32	28	26				
7	61	48	40	34	57	46	38	33	41	35	30	37	32	28	33	29	25	23				
8	56	44	36	30	53	42	34	29	37	31	27	34	29	25	30	26	23	21				
9	53	40	32	27	49	38	31	26	34	29	24	31	26	22	28	24	21	19				
10	49	37	29	25	46	35	28	24	32	26	22	29	24	20	26	22	19	17				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11431	11431	11431
5°	11215	10093	9780
10°	11068	8980	8448
15°	10906	8042	7390
20°	10656	7214	6463
25°	10323	6442	5632
30°	9997	5692	4889
35°	9554	5006	4196
40°	9141	4383	3557
45°	8663	3767	2968
50°	8157	3190	2435
55°	7622	2684	1964
60°	7111	2200	1570
65°	6482	1754	1242
70°	5877	1375	981
75°	5139	1056	774
80°	4294	785	603
85°	3131	571	458

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8663 cd/sqm



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CATALOG NUMBER: CRQ4DIP-SR4F0-50D25U935-FLLOOB-1DUDD-WW

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.8	2.4
10°-20°	189.6	6.9
20°-30°	279.9	10.2
30°-40°	321.8	11.8
40°-50°	312.2	11.4
50°-60°	261.3	9.6
60°-70°	188.3	6.9
70°-80°	115.0	4.2
80°-90°	56.3	2.1
90°-100°	42.9	1.6
100°-110°	156.1	5.7
110°-120°	203.9	7.5
120°-130°	164.8	6.0
130°-140°	131.8	4.8
140°-150°	103.8	3.8
150°-160°	75.9	2.8
160°-170°	47.1	1.7
170°-180°	16.1	0.6
0°-30°	536.4	19.6
0°-40°	858.2	31.4
0°-60°	1431.8	52.4
0°-90°	1791.4	65.5
90°-120°	402.9	14.7
90°-150°	803.2	29.4
90°-180°	942.0	34.5
0°-180°	2733.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	708	708	708	708	708	
5°	697	710	703	704	709	66
15°	667	677	671	674	679	188
25°	602	612	610	607	611	277
35°	513	521	516	511	511	321
45°	411	415	408	396	390	317
55°	303	307	296	278	269	272
65°	200	201	191	177	172	199
75°	108	108	110	107	105	115
85°	33	40	55	59	59	35
90°	3	21	38	45	46	4
95°	18	25	30	38	41	18
105°	43	55	197	255	174	45
115°	66	74	168	347	405	65
125°	88	98	157	273	323	78
135°	104	116	157	225	258	80
145°	123	134	158	196	217	77
155°	145	150	162	178	186	66
165°	160	163	166	170	173	45
175°	169	170	169	168	167	16
180°	169	169	169	169	169	

TEST NUMBER: P644360

CATALOG NUMBER: CRQ4DIP-SR4F0-50D25U935-FLLOOB-1DUDD-WW

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	708.0	708.0	708.0	708.0	708.0
2.5°	701.6	711.8	705.6	707.2	708.0
5°	697.0	709.7	703.0	704.1	709.0
7.5°	690.6	702.3	696.4	697.7	703.4
10°	685.0	696.7	690.0	692.1	697.0
12.5°	677.8	688.7	683.6	685.7	690.6
15°	667.0	676.8	671.0	674.1	679.0
17.5°	651.0	661.6	655.4	657.1	662.0
20°	639.0	648.8	645.0	645.1	650.0
22.5°	624.6	635.2	632.2	629.9	635.6
25°	602.0	611.8	610.0	607.1	611.0
27.5°	579.6	586.8	583.4	580.5	583.4
30°	562.0	570.8	565.0	562.1	565.0
32.5°	542.8	551.6	545.8	542.0	543.4
35°	513.0	520.8	516.0	511.0	511.0
37.5°	484.8	489.9	486.6	478.2	476.0
40°	464.0	469.9	465.0	454.9	452.0
42.5°	442.4	448.3	442.6	431.7	427.2
45°	411.0	414.9	408.0	395.9	390.0
47.5°	378.6	382.7	373.2	359.8	352.8
50°	357.0	361.9	350.0	335.8	328.0
52.5°	336.2	339.5	328.4	311.8	304.8
55°	303.0	306.9	296.0	277.8	269.0
57.5°	272.0	275.7	262.8	245.4	238.6
60°	252.0	254.9	242.0	223.8	217.0
62.5°	229.6	232.5	220.4	204.6	197.8
65°	200.0	201.0	191.0	176.9	172.0
67.5°	172.2	172.2	163.8	153.3	149.4
70°	153.0	153.0	147.0	138.9	135.0
72.5°	135.4	134.6	131.0	125.3	122.2
75°	108.0	108.0	110.0	107.0	105.0
77.5°	84.0	82.4	91.0	90.6	89.6
80°	68.0	68.0	79.0	81.0	80.0
82.5°	53.6	55.2	69.4	72.2	71.2
85°	33.0	39.8	55.0	59.0	59.0
87.5°	15.0	27.1	43.6	49.0	49.2
90°	3.0	20.7	38.1	45.2	46.2
92.5°	8.8	18.6	34.3	42.3	44.8
95°	18.5	24.8	29.5	37.6	40.7
97.5°	27.1	36.2	77.7	39.5	38.1
100°	32.2	43.0	137.5	54.0	43.5
102.5°	36.5	48.2	178.5	111.3	68.4
105°	43.0	54.8	197.4	254.9	173.7
107.5°	49.4	57.0	186.5	363.4	341.7
110°	53.7	61.3	180.6	380.0	409.0



TEST NUMBER: P644360

CATALOG NUMBER: CRQ4DIP-SR4F0-50D25U935-FLLOOB-1DUDD-WW

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	58.8	66.4	175.5	367.7	415.9
115°	65.5	74.0	167.9	346.7	404.9
117.5°	72.1	81.7	165.7	323.2	383.1
120°	77.3	86.8	161.5	305.5	367.9
122.5°	81.5	91.1	157.3	290.9	348.3
125°	88.0	97.5	157.3	273.3	323.2
127.5°	93.0	103.8	157.5	252.9	302.2
130°	95.6	108.0	158.4	239.2	286.0
132.5°	98.2	110.7	157.6	233.1	271.5
135°	104.2	115.6	157.4	225.1	258.4
137.5°	109.5	121.8	157.4	216.3	244.7
140°	113.8	125.2	157.4	211.1	237.1
142.5°	118.0	128.6	158.2	205.1	229.4
145°	123.3	133.7	158.4	196.1	216.9
147.5°	129.7	138.9	159.7	189.6	205.6
150°	134.0	142.3	160.5	185.3	198.8
152.5°	138.2	145.7	160.5	181.8	192.9
155°	144.6	149.8	161.6	177.7	186.1
157.5°	149.7	154.7	162.9	175.1	181.2
160°	153.1	157.3	163.7	173.4	178.6
162.5°	155.7	159.8	164.6	172.5	176.1
165°	160.5	162.6	165.9	170.2	173.3
167.5°	163.3	165.2	166.9	169.1	171.0
170°	165.9	166.9	166.9	169.1	170.1
172.5°	166.7	168.6	167.8	168.2	169.3
175°	169.0	170.1	169.0	168.0	166.9
177.5°	169.0	169.9	169.0	169.0	168.2
180°	169.0	169.0	169.0	169.0	169.0

(END OF REPORT)