

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: P644370

Luminaire Tested: CRQ4DIP-SR4F0-50D50U930-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644370
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-SR4F0-50D50U930-FLLOOB-1DUDD-WW
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE
DOWNLIGHT - CURVED FROSTED LENS - 500 LUMENS PER FOOT
UPLIGHT - BATWING OPTIC - 500 LUMENS PER FOOT
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

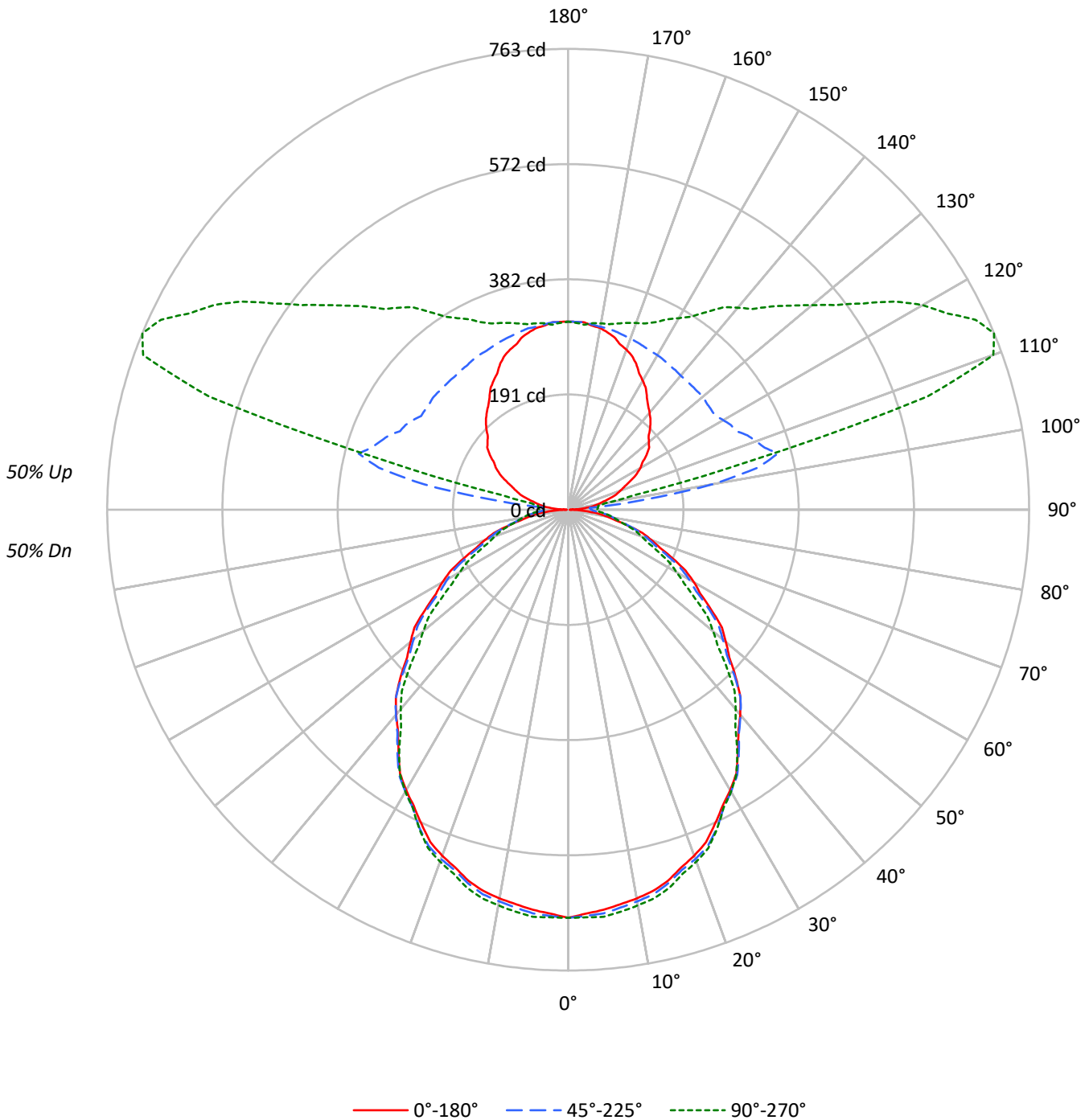
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3414.6 lumens
Efficiency: N/A
Efficacy: 118.2 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): 28.9
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					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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50				
1	98	93	89	86	90	86	83	80	73	70	68	61	59	57	49	48	47	42				
2	89	81	75	70	82	75	70	65	64	60	56	53	50	48	44	41	40	35				
3	81	72	64	58	75	66	60	55	56	52	48	47	44	41	39	36	34	30				
4	74	63	56	50	68	59	52	47	50	45	41	42	38	35	35	32	29	26				
5	68	57	49	43	63	53	45	40	45	39	35	38	34	30	31	28	26	22				
6	63	51	43	37	58	47	40	35	41	35	31	34	30	27	28	25	23	20				
7	58	46	38	32	54	43	36	31	37	31	27	31	27	24	26	23	20	18				
8	54	42	34	29	50	39	32	27	34	28	24	29	24	21	24	21	18	16				
9	50	38	31	26	46	36	29	24	31	25	22	26	22	19	22	19	16	14				
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	20	17	15	13				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10908	10908	10908
5°	10702	9631	9332
10°	10561	8569	8061
15°	10407	7674	7051
20°	10168	6884	6167
25°	9850	6147	5374
30°	9540	5431	4665
35°	9116	4777	4004
40°	8723	4182	3394
45°	8266	3594	2832
50°	7785	3045	2324
55°	7272	2561	1874
60°	6787	2099	1498
65°	6184	1675	1185
70°	5608	1312	936
75°	4906	1008	739
80°	4098	749	575
85°	2989	545	437

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8266 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	63.8	1.9
10°-20°	180.9	5.3
20°-30°	267.1	7.8
30°-40°	307.1	9.0
40°-50°	297.9	8.7
50°-60°	249.4	7.3
60°-70°	179.7	5.3
70°-80°	109.8	3.2
80°-90°	54.0	1.6
90°-100°	59.4	1.7
100°-110°	280.4	8.2
110°-120°	372.9	10.9
120°-130°	302.5	8.9
130°-140°	242.5	7.1
140°-150°	191.1	5.6
150°-160°	139.7	4.1
160°-170°	86.8	2.5
170°-180°	29.6	0.9
0°-30°	511.8	15.0
0°-40°	818.9	24.0
0°-60°	1366.2	40.0
0°-90°	1709.7	50.1
90°-120°	712.7	20.9
90°-150°	1448.8	42.4
90°-180°	1705.0	49.9
0°-180°	3414.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	676	676	676	676	676	
5°	665	677	671	672	676	63
15°	636	646	640	643	648	179
25°	574	584	582	579	583	265
35°	490	497	492	488	488	307
45°	392	396	389	378	372	302
55°	289	293	282	265	257	259
65°	191	192	182	169	164	190
75°	103	103	105	102	100	110
85°	32	38	52	56	56	33
90°	3	21	38	46	47	4
95°	25	38	36	44	49	26
105°	70	97	359	461	310	74
115°	114	134	307	637	744	113
125°	158	178	289	503	595	141
135°	192	213	290	414	476	148
145°	227	246	292	361	399	143
155°	266	276	298	327	343	122
165°	296	300	305	313	319	83
175°	311	313	311	309	307	29
180°	311	311	311	311	311	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	675.6	675.6	675.6	675.6	675.6
2.5°	669.5	679.2	673.3	674.8	675.6
5°	665.1	677.2	670.8	671.9	676.5
7.5°	659.0	670.2	664.5	665.8	671.2
10°	653.6	664.8	658.4	660.4	665.1
12.5°	646.8	657.2	652.3	654.3	659.0
15°	636.5	645.8	640.3	643.2	647.9
17.5°	621.2	631.3	625.4	627.0	631.7
20°	609.7	619.1	615.5	615.6	620.2
22.5°	596.0	606.1	603.2	601.1	606.5
25°	574.4	583.8	582.1	579.3	583.0
27.5°	553.1	560.0	556.7	553.9	556.7
30°	536.3	544.7	539.1	536.3	539.1
32.5°	517.9	526.3	520.8	517.2	518.5
35°	489.5	497.0	492.4	487.6	487.6
37.5°	462.6	467.5	464.3	456.3	454.2
40°	442.8	448.3	443.7	434.1	431.3
42.5°	422.1	427.7	422.3	411.9	407.6
45°	392.2	395.9	389.3	377.7	372.1
47.5°	361.3	365.2	356.1	343.4	336.6
50°	340.7	345.3	334.0	320.4	313.0
52.5°	320.8	324.0	313.4	297.6	290.8
55°	289.1	292.9	282.4	265.1	256.7
57.5°	259.5	263.1	250.8	234.2	227.7
60°	240.5	243.3	230.9	213.6	207.1
62.5°	219.1	221.9	210.3	195.3	188.7
65°	190.8	191.8	182.3	168.8	164.1
67.5°	164.3	164.3	156.3	146.3	142.6
70°	146.0	146.0	140.3	132.5	128.8
72.5°	129.2	128.5	125.0	119.6	116.6
75°	103.1	103.1	105.0	102.1	100.2
77.5°	80.2	78.7	86.8	86.4	85.5
80°	64.9	64.9	75.4	77.3	76.3
82.5°	51.1	52.6	66.2	68.9	67.9
85°	31.5	38.0	52.5	56.3	56.3
87.5°	14.3	26.1	42.0	47.4	47.5
90°	2.9	20.6	38.3	46.0	46.9
92.5°	10.6	20.9	36.9	46.2	49.4
95°	25.2	37.7	35.7	44.4	49.2
97.5°	39.3	61.4	129.6	54.0	50.6
100°	48.7	74.7	242.5	84.3	63.2
102.5°	57.3	84.8	320.9	192.6	112.6
105°	70.2	97.2	359.1	461.3	310.1
107.5°	83.2	102.3	341.0	664.2	623.4
110°	91.8	110.1	330.8	696.1	748.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	101.2	119.5	321.4	675.1	762.9
115°	114.4	133.6	307.3	636.7	743.9
117.5°	127.7	147.7	303.6	594.5	704.8
120°	137.9	157.1	296.6	562.6	677.4
122.5°	145.7	165.7	288.8	535.7	641.4
125°	158.5	177.7	288.8	503.3	595.2
127.5°	168.7	189.4	289.2	465.7	556.4
130°	174.2	197.2	290.7	440.5	526.7
132.5°	180.5	203.5	290.0	429.2	500.0
135°	191.9	212.9	289.8	414.5	475.8
137.5°	201.7	224.3	289.8	398.2	450.7
140°	209.5	230.6	289.8	388.7	436.6
142.5°	217.3	236.9	291.3	377.7	422.5
145°	227.1	246.3	291.7	361.1	399.4
147.5°	238.9	255.7	294.1	349.2	378.7
150°	246.7	262.0	295.6	341.2	366.1
152.5°	254.5	268.3	295.6	334.9	355.2
155°	266.3	275.8	297.6	327.3	342.6
157.5°	275.7	284.9	299.9	322.5	333.6
160°	281.9	289.6	301.5	319.4	328.9
162.5°	286.6	294.3	303.1	317.7	324.2
165°	295.6	299.5	305.4	313.4	319.1
167.5°	300.7	304.2	307.4	311.4	314.8
170°	305.4	307.3	307.4	311.3	313.3
172.5°	307.0	310.4	309.0	309.8	311.7
175°	311.3	313.2	311.3	309.3	307.4
177.5°	311.3	312.8	311.3	311.3	309.7
180°	311.3	311.3	311.3	311.3	311.3

(END OF REPORT)