

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: P644232

Luminaire Tested: CRQ4DIP-SR4F0-100D75U830-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644232
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-SR4F0-100D75U830-FLLOOB-1DUDD-WW
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE
DOWNLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT
UPLIGHT - BATWING OPTIC - 750 LUMENS PER FOOT
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

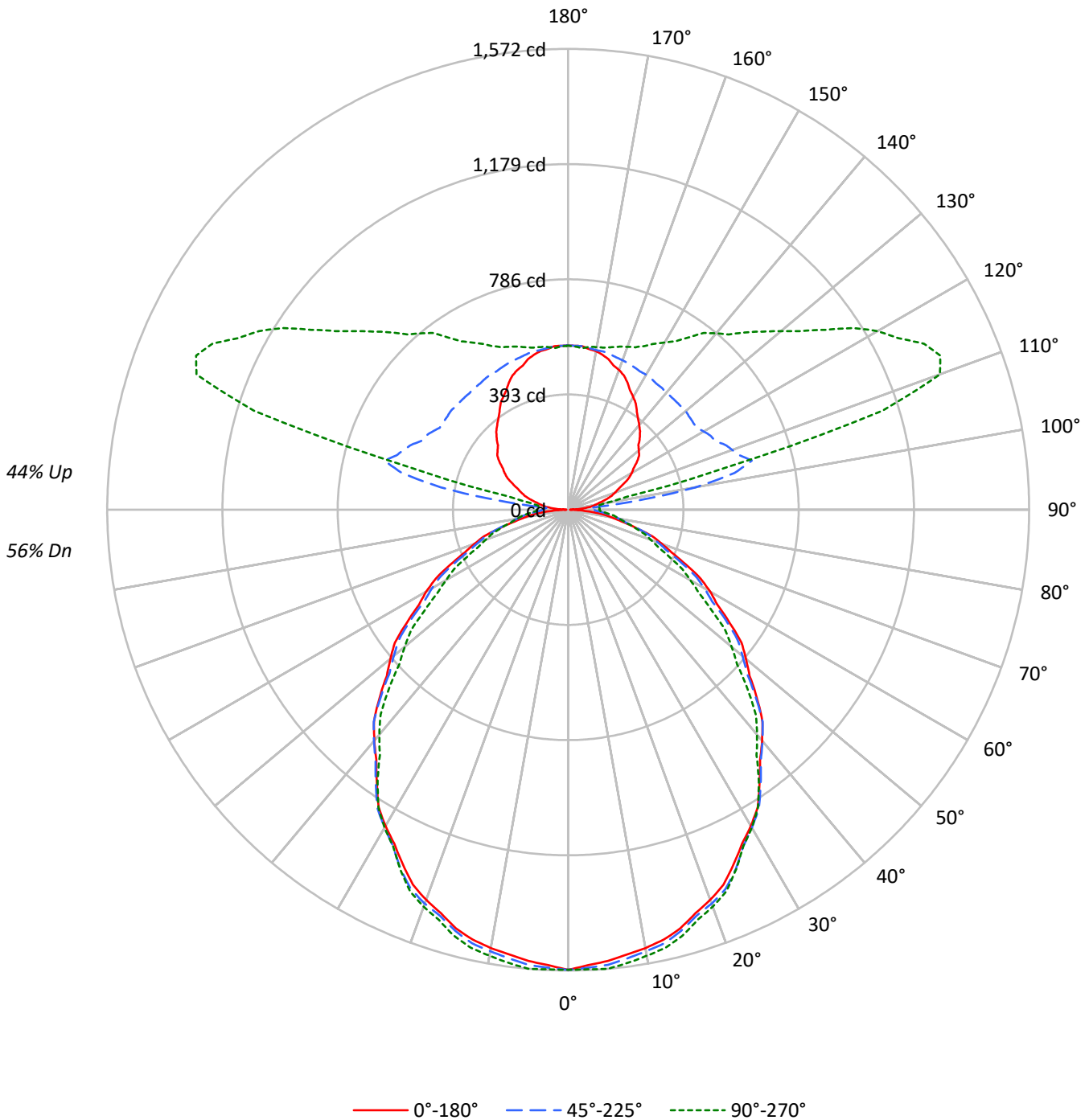
Lumens per Lamp: N/A
Luminaire Lumens: 7054.1 lumens
Efficiency: N/A
Efficacy: 139.1 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')
CIE Type: General Diffuse

Input Watts (W): 50.7
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	0
RCR																		
0	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	56
1	99	95	90	87	92	88	85	81	76	73	71	65	63	61	54	53	52	47
2	90	83	76	71	84	77	72	67	67	62	59	57	54	51	48	46	44	39
3	82	73	65	59	76	68	61	56	59	54	50	50	47	43	43	40	37	34
4	75	64	56	50	70	60	53	48	52	47	42	45	41	37	38	35	32	29
5	69	58	49	43	64	54	47	41	47	41	37	40	36	32	34	31	28	25
6	64	52	44	38	59	48	41	36	42	36	32	37	32	28	31	28	25	22
7	59	47	39	33	55	44	37	32	38	33	28	33	29	25	29	25	22	20
8	55	43	35	29	51	40	33	28	35	29	25	31	26	23	26	23	20	18
9	51	39	31	26	48	37	30	25	32	27	23	28	24	20	24	21	18	16
10	48	36	28	24	45	34	27	23	30	24	20	26	22	18	23	19	16	15

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	25339	25339	25339
5°	24859	22373	21678
10°	24534	19906	18726
15°	24174	17825	16380
20°	23620	15991	14327
25°	22883	14279	12484
30°	22158	12618	10836
35°	21177	11098	9301
40°	20261	9715	7885
45°	19201	8350	6580
50°	18081	7072	5397
55°	16894	5950	4353
60°	15763	4877	3479
65°	14368	3889	2754
70°	13026	3047	2175
75°	11392	2341	1715
80°	9515	1740	1336
85°	6936	1266	1016

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 19201 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.1	2.1
10°-20°	420.3	6.0
20°-30°	620.5	8.8
30°-40°	713.4	10.1
40°-50°	692.0	9.8
50°-60°	579.3	8.2
60°-70°	417.4	5.9
70°-80°	255.0	3.6
80°-90°	125.2	1.8
90°-100°	117.9	1.7
100°-110°	508.2	7.2
110°-120°	672.0	9.5
120°-130°	544.5	7.7
130°-140°	436.2	6.2
140°-150°	343.6	4.9
150°-160°	251.2	3.6
160°-170°	156.1	2.2
170°-180°	53.2	0.8
0°-30°	1189.0	16.9
0°-40°	1902.4	27.0
0°-60°	3173.7	45.0
0°-90°	3971.3	56.3
90°-120°	1298.1	18.4
90°-150°	2622.3	37.2
90°-180°	3083.0	43.7
0°-180°	7054.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1569	1569	1569	1569	1569	
5°	1545	1573	1558	1561	1572	147
15°	1478	1500	1487	1494	1505	416
25°	1334	1356	1352	1346	1354	615
35°	1137	1154	1144	1133	1133	712
45°	911	920	904	878	864	702
55°	672	680	656	616	596	602
65°	443	446	423	392	381	441
75°	239	239	244	237	233	256
85°	73	88	122	131	131	77
90°	7	47	87	104	106	9
95°	50	72	75	94	103	50
105°	131	177	648	834	563	139
115°	209	242	554	1146	1339	207
125°	287	320	520	905	1070	255
135°	345	383	521	745	856	266
145°	408	443	525	649	718	257
155°	479	496	535	589	616	220
165°	532	538	549	564	574	149
175°	560	563	560	556	553	53
180°	560	560	560	560	560	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1569.4	1569.4	1569.4	1569.4	1569.4
2.5°	1555.2	1577.7	1564.0	1567.6	1569.4
5°	1545.0	1573.1	1558.3	1560.7	1571.6
7.5°	1530.8	1556.8	1543.6	1546.6	1559.2
10°	1518.4	1544.4	1529.5	1534.1	1545.0
12.5°	1502.4	1526.7	1515.3	1519.9	1530.8
15°	1478.5	1500.1	1487.3	1494.2	1505.1
17.5°	1443.0	1466.4	1452.8	1456.6	1467.4
20°	1416.4	1438.1	1429.7	1430.0	1440.8
22.5°	1384.5	1407.9	1401.3	1396.3	1408.9
25°	1334.4	1356.1	1352.1	1345.7	1354.3
27.5°	1284.7	1300.8	1293.2	1286.7	1293.2
30°	1245.7	1265.2	1252.4	1245.9	1252.4
32.5°	1203.2	1222.7	1209.8	1201.5	1204.5
35°	1137.1	1154.5	1143.8	1132.7	1132.7
37.5°	1074.6	1085.9	1078.6	1059.9	1055.1
40°	1028.5	1041.5	1030.7	1008.4	1001.9
42.5°	980.6	993.6	981.1	956.9	946.9
45°	911.0	919.7	904.4	877.5	864.5
47.5°	839.2	848.3	827.2	797.6	782.0
50°	791.3	802.2	775.8	744.4	727.0
52.5°	745.2	752.6	727.9	691.2	675.6
55°	671.6	680.3	656.1	615.8	596.3
57.5°	602.9	611.2	582.5	544.1	528.9
60°	558.6	565.1	536.4	496.2	481.0
62.5°	508.9	515.4	488.5	453.6	438.4
65°	443.3	445.5	423.4	392.1	381.3
67.5°	381.7	381.7	363.1	339.8	331.2
70°	339.1	339.1	325.8	307.9	299.2
72.5°	300.1	298.4	290.4	277.8	270.9
75°	239.4	239.4	243.8	237.1	232.7
77.5°	186.2	182.7	201.7	200.8	198.6
80°	150.7	150.7	175.1	179.5	177.3
82.5°	118.8	122.3	153.8	160.0	157.8
85°	73.1	88.3	121.9	130.8	130.8
87.5°	33.2	60.4	97.2	109.4	109.8
90°	6.6	46.9	86.8	103.7	105.9
92.5°	22.2	45.1	81.1	100.9	107.5
95°	50.3	72.3	74.7	94.0	103.0
97.5°	76.6	113.4	240.7	107.7	102.0
100°	93.5	136.8	442.0	160.1	123.1
102.5°	108.6	154.7	581.4	353.3	210.0
105°	131.3	176.8	648.3	834.1	563.0
107.5°	154.0	185.5	614.6	1197.2	1124.3
110°	169.1	199.6	595.9	1253.8	1348.9



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	186.0	216.5	579.0	1215.1	1373.5
115°	209.1	241.8	553.6	1146.0	1338.7
117.5°	232.5	267.1	546.9	1069.5	1267.8
120°	250.5	284.0	533.8	1011.6	1218.1
122.5°	264.6	299.1	519.7	963.3	1153.3
125°	287.0	320.5	519.7	905.0	1070.3
127.5°	304.8	341.6	520.4	837.4	1000.5
130°	314.2	355.6	523.3	792.1	947.0
132.5°	324.8	366.1	521.5	771.8	899.2
135°	345.0	382.9	521.0	745.3	855.5
137.5°	362.6	403.2	521.0	716.1	810.4
140°	376.7	414.6	521.0	699.0	785.1
142.5°	390.8	425.9	523.9	679.2	759.7
145°	408.4	442.8	524.6	649.4	718.2
147.5°	429.5	459.8	528.8	627.9	680.9
150°	443.6	471.1	531.6	613.6	658.3
152.5°	457.7	482.5	531.6	602.1	638.6
155°	478.8	496.0	535.1	588.6	616.1
157.5°	495.7	512.2	539.4	579.9	599.9
160°	507.0	520.7	542.2	574.2	591.5
162.5°	515.4	529.2	545.0	571.3	583.0
165°	531.6	538.5	549.2	563.5	573.9
167.5°	540.8	547.0	552.7	559.9	566.1
170°	549.2	552.7	552.7	559.9	563.3
172.5°	552.0	558.2	555.5	557.0	560.5
175°	559.8	563.2	559.8	556.2	552.7
177.5°	559.8	562.5	559.8	559.7	557.0
180°	559.8	559.8	559.8	559.8	559.8

(END OF REPORT)