

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: P644241

Luminaire Tested: CRQ4DIP-SR4F0-100D75U940-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644241
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2206-689-28, G2-2206-689-14)
Test Lab: INNOVATION CENTER
Issue Date: 2/20/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: CRQ4DIP-SR4F0-100D75U940-FLLFLL-1DUDD-WW
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE
DOWNLIGHT - CURVED FROSTED LENS - 1000 LUMENS PER FOOT
UPLIGHT - CURVED FROSTED LENS - 750 LUMENS PER FOOT
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

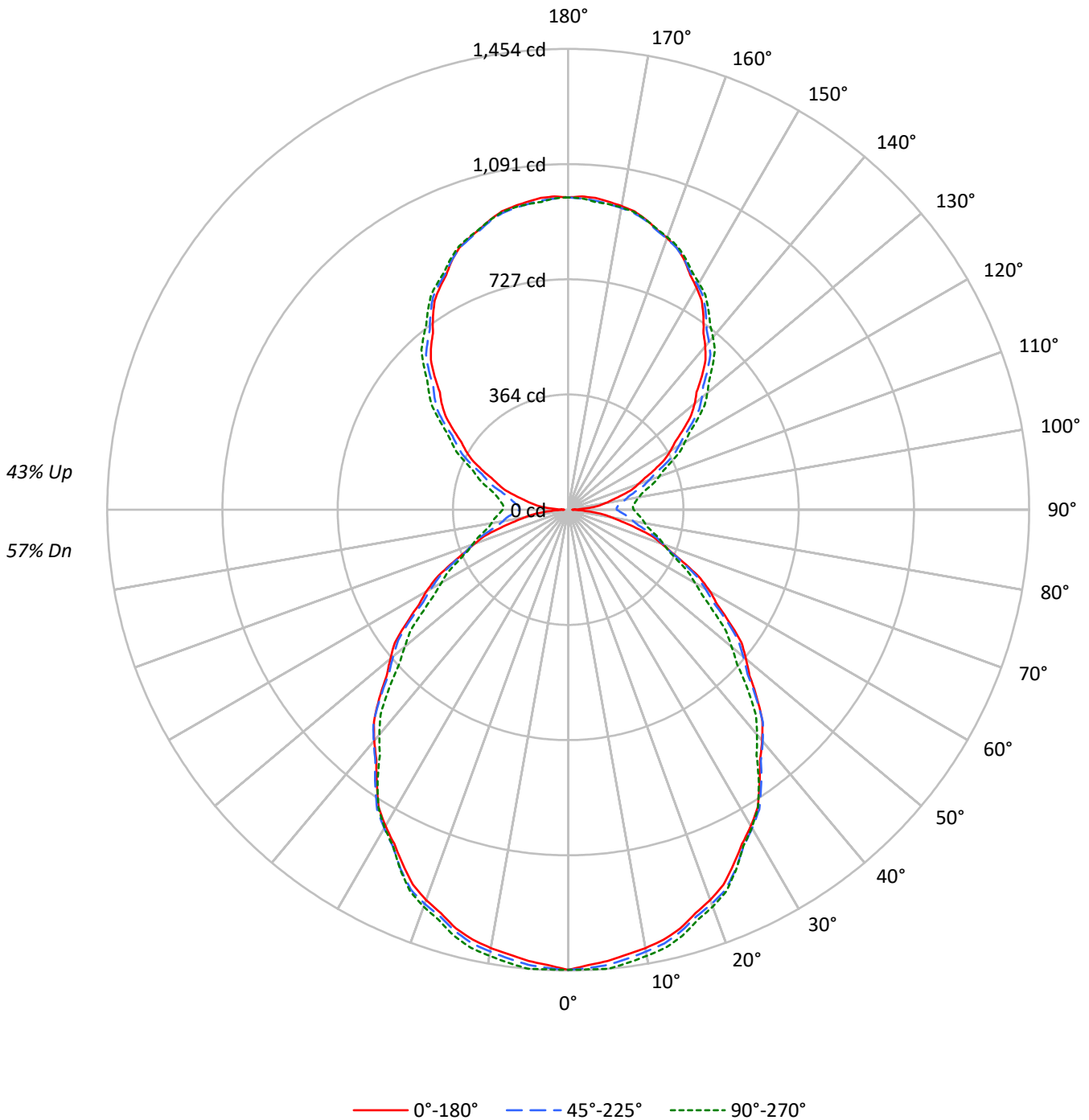
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6652.1 lumens
Efficiency: N/A
Efficacy: 131.2 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): 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	50	30	10	0	
RCR																						
0	109	109	109	109	101	101	101	101	87	87	87	74	74	74	63	63	63	57				
1	99	94	90	86	92	88	84	81	76	73	70	64	63	61	54	53	52	47				
2	90	82	76	70	83	77	71	66	66	62	58	57	53	51	48	45	43	39				
3	82	72	65	59	76	67	61	55	58	53	49	50	46	43	42	39	37	33				
4	75	64	56	50	70	60	53	47	52	46	42	45	40	37	38	35	32	28				
5	69	57	49	43	64	53	46	40	47	41	36	40	36	32	34	31	28	25				
6	64	51	43	37	59	48	41	35	42	36	32	36	32	28	31	27	25	22				
7	59	46	38	33	55	44	36	31	38	32	28	33	28	25	28	25	22	19				
8	55	42	34	29	51	40	33	28	35	29	25	30	26	22	26	22	20	17				
9	51	39	31	26	47	36	29	25	32	26	22	28	23	20	24	21	18	16				
10	48	35	28	23	44	33	27	22	30	24	20	26	21	18	22	19	16	14				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	23439	23439	23439
5°	22995	20694	20052
10°	22693	18426	17321
15°	22361	16501	15152
20°	21849	14803	13252
25°	21167	13208	11548
30°	20497	11692	10024
35°	19588	10295	8603
40°	18742	8997	7294
45°	17762	7733	6086
50°	16726	6570	4993
55°	15629	5523	4080
60°	14581	4550	3340
65°	13292	3694	2759
70°	12050	2985	2331
75°	10535	2457	2042
80°	8802	2077	1850
85°	6423	1866	1752

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 17762 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	137.1	2.1
10°-20°	389.0	5.8
20°-30°	574.3	8.6
30°-40°	660.7	9.9
40°-50°	641.2	9.6
50°-60°	539.4	8.1
60°-70°	400.0	6.0
70°-80°	269.2	4.0
80°-90°	178.6	2.7
90°-100°	162.6	2.4
100°-110°	230.9	3.5
110°-120°	330.6	5.0
120°-130°	424.9	6.4
130°-140°	479.5	7.2
140°-150°	473.6	7.1
150°-160°	400.6	6.0
160°-170°	266.7	4.0
170°-180°	93.3	1.4
0°-30°	1100.3	16.5
0°-40°	1761.1	26.5
0°-60°	2941.6	44.2
0°-90°	3789.5	57.0
90°-120°	724.1	10.9
90°-150°	2102.1	31.6
90°-180°	2863.0	43.0
0°-180°	6652.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1452	1452	1452	1452	1452	
5°	1429	1455	1441	1444	1454	136
15°	1368	1390	1377	1382	1392	385
25°	1234	1256	1251	1245	1253	569
35°	1052	1071	1061	1048	1048	659
45°	843	854	838	812	800	650
55°	621	633	609	573	559	557
65°	410	418	402	387	382	408
75°	221	230	256	273	277	237
85°	68	106	180	216	226	72
90°	14	75	153	194	206	13
95°	68	87	159	200	208	66
105°	174	176	218	252	259	186
115°	302	310	335	355	360	300
125°	444	458	478	494	498	398
135°	596	609	621	637	644	460
145°	744	753	757	763	771	464
155°	868	873	869	870	875	399
165°	948	952	944	941	948	267
175°	987	991	979	975	975	94
180°	985	985	985	985	985	

TEST NUMBER: P644241

CATALOG NUMBER: CRQ4DIP-SR4F0-100D75U940-FLLFLL-1DUDD-WW

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1451.7	1451.7	1451.7	1451.7	1451.7
2.5°	1438.5	1459.4	1447.6	1450.1	1451.7
5°	1429.1	1455.2	1441.4	1443.7	1453.7
7.5°	1416.0	1440.9	1428.9	1430.6	1442.2
10°	1404.5	1428.6	1415.8	1419.1	1429.1
12.5°	1389.7	1413.8	1401.8	1406.0	1416.0
15°	1367.6	1389.7	1376.8	1382.2	1392.2
17.5°	1334.8	1357.5	1344.9	1347.3	1357.3
20°	1310.2	1331.3	1323.5	1322.7	1332.7
22.5°	1280.7	1303.3	1297.3	1291.6	1303.2
25°	1234.3	1256.4	1250.7	1244.8	1252.8
27.5°	1188.4	1206.9	1197.4	1190.2	1196.2
30°	1152.3	1172.4	1160.5	1152.4	1158.5
32.5°	1112.9	1133.8	1121.2	1111.4	1114.2
35°	1051.8	1070.9	1061.1	1047.7	1047.7
37.5°	994.0	1008.5	998.8	980.4	976.0
40°	951.4	967.5	954.5	932.8	926.8
42.5°	907.1	923.2	909.4	885.1	875.9
45°	842.7	853.8	837.6	811.7	799.6
47.5°	776.3	788.6	766.7	737.8	723.4
50°	732.0	745.1	720.8	688.6	672.5
52.5°	689.3	700.0	675.6	640.2	626.6
55°	621.3	633.4	609.0	572.8	558.9
57.5°	557.7	569.4	542.2	512.7	500.9
60°	516.7	526.8	500.4	472.6	461.7
62.5°	470.8	481.7	457.8	437.5	428.2
65°	410.1	418.2	402.1	386.9	381.9
67.5°	353.1	359.2	350.3	346.1	344.4
70°	313.7	319.8	319.2	321.6	320.7
72.5°	277.6	283.0	292.2	300.4	301.2
75°	221.4	229.6	255.9	272.8	277.0
77.5°	172.2	180.1	226.1	250.5	256.9
80°	139.4	153.7	209.0	238.4	245.6
82.5°	109.9	130.7	196.1	229.6	236.8
85°	67.7	106.2	179.7	216.4	225.6
87.5°	32.2	86.7	164.7	203.9	214.5
90°	13.5	75.2	153.3	194.1	206.3
92.5°	34.3	76.6	153.6	193.5	204.1
95°	67.6	87.0	159.1	199.8	208.0
97.5°	98.9	106.3	171.5	208.7	216.8
100°	119.8	123.1	182.5	218.1	226.2
102.5°	141.6	142.5	196.0	229.9	238.0
105°	174.2	176.5	218.4	251.8	258.9
107.5°	210.7	213.8	248.2	278.7	285.0
110°	235.0	241.3	270.8	298.1	305.2



TEST NUMBER: P644241

CATALOG NUMBER: CRQ4DIP-SR4F0-100D75U940-FLLFLL-1DUDD-WW

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	262.6	268.9	295.1	319.0	326.2
115°	302.0	310.3	334.6	354.6	359.7
117.5°	343.0	353.3	375.2	392.9	397.8
120°	373.2	383.5	403.7	420.5	424.6
122.5°	400.8	411.9	432.9	449.8	453.9
125°	444.3	457.7	477.9	493.7	497.8
127.5°	488.9	503.1	521.6	537.7	543.0
130°	520.7	534.0	550.1	567.0	573.1
132.5°	549.3	562.6	577.7	595.5	602.4
135°	596.1	609.4	621.2	637.1	644.2
137.5°	641.5	654.4	663.5	676.0	685.0
140°	672.5	683.7	690.3	701.9	710.1
142.5°	700.9	712.2	717.0	727.1	735.2
145°	743.6	752.8	757.2	762.6	770.8
147.5°	783.5	792.5	794.4	799.1	804.3
150°	809.5	817.7	817.9	820.1	825.2
152.5°	833.8	841.1	838.8	840.2	846.1
155°	868.1	873.2	869.1	870.3	875.4
157.5°	895.2	900.4	894.0	896.0	900.1
160°	912.0	917.1	909.9	911.0	915.1
162.5°	927.9	931.4	924.9	923.6	929.3
165°	947.5	951.6	944.4	941.4	947.5
167.5°	964.3	968.4	958.8	955.6	961.8
170°	972.6	976.7	966.4	962.3	968.5
172.5°	980.2	984.3	973.1	968.1	972.6
175°	987.3	991.4	978.9	974.7	974.7
177.5°	989.4	991.8	982.7	978.6	983.5
180°	985.2	985.2	985.2	985.2	985.2

(END OF REPORT)