

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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: P644238

Luminaire Tested: CRQ4DIP-SR4F0-100D75U930-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644238  
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-SR4F0-100D75U930-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, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

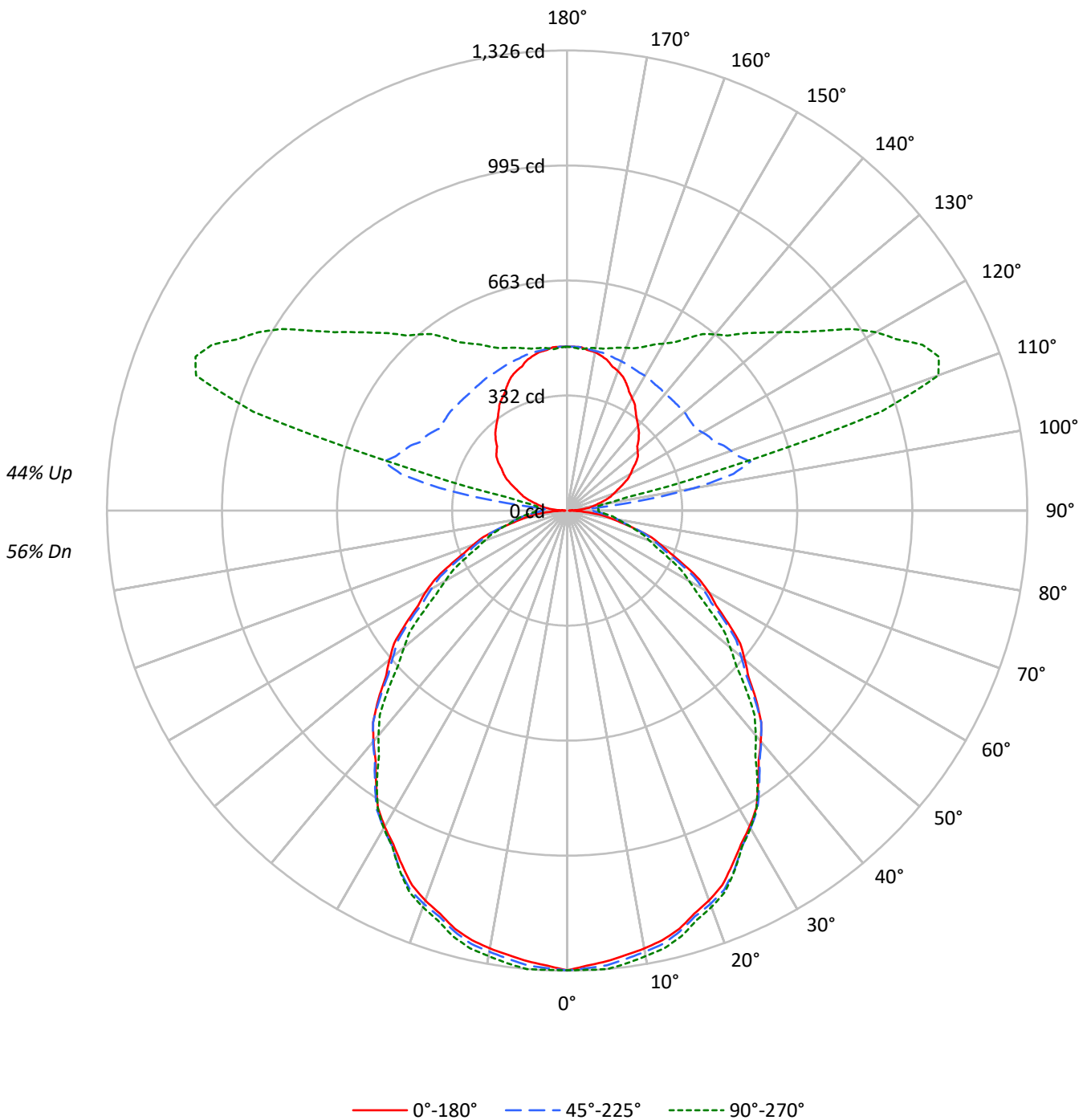
Lumens per Lamp: N/A  
Luminaire Lumens: 5953.3 lumens  
Efficiency: N/A  
Efficacy: 117.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: General Diffuse

Input Watts (W): 50.7  
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°	21385	21385	21385
5°	20980	18881	18295
10°	20704	16799	15804
15°	20402	15043	13824
20°	19935	13496	12092
25°	19313	12051	10536
30°	18700	10648	9145
35°	17873	9366	7849
40°	17099	8199	6655
45°	16206	7046	5553
50°	15259	5968	4555
55°	14258	5022	3673
60°	13302	4116	2936
65°	12125	3282	2324
70°	10994	2572	1835
75°	9612	1976	1448
80°	8031	1469	1128
85°	5854	1069	857

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 16206 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	125.0	2.1
10°-20°	354.7	6.0
20°-30°	523.7	8.8
30°-40°	602.1	10.1
40°-50°	584.0	9.8
50°-60°	488.9	8.2
60°-70°	352.2	5.9
70°-80°	215.2	3.6
80°-90°	105.6	1.8
90°-100°	99.5	1.7
100°-110°	428.9	7.2
110°-120°	567.1	9.5
120°-130°	459.5	7.7
130°-140°	368.1	6.2
140°-150°	290.0	4.9
150°-160°	212.0	3.6
160°-170°	131.7	2.2
170°-180°	44.9	0.8
0°-30°	1003.4	16.9
0°-40°	1605.5	27.0
0°-60°	2678.5	45.0
0°-90°	3351.5	56.3
90°-120°	1095.5	18.4
90°-150°	2213.1	37.2
90°-180°	2602.0	43.7
0°-180°	5953.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1324	1324	1324	1324	1324	
5°	1304	1328	1315	1317	1326	124
15°	1248	1266	1255	1261	1270	351
25°	1126	1144	1141	1136	1143	519
35°	960	974	965	956	956	601
45°	769	776	763	740	730	593
55°	567	574	554	520	503	508
65°	374	376	357	331	322	372
75°	202	202	206	200	196	216
85°	62	74	103	110	110	65
90°	6	40	73	88	89	8
95°	42	61	63	79	87	42
105°	111	149	547	704	475	117
115°	176	204	467	967	1130	175
125°	242	270	439	764	903	215
135°	291	323	440	629	722	225
145°	345	374	443	548	606	216
155°	404	419	452	497	520	186
165°	449	454	464	476	484	126
175°	472	475	472	469	466	45
180°	472	472	472	472	472	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1324.5	1324.5	1324.5	1324.5	1324.5
2.5°	1312.5	1331.5	1320.0	1323.0	1324.5
5°	1303.9	1327.7	1315.1	1317.2	1326.3
7.5°	1291.9	1313.9	1302.8	1305.2	1315.9
10°	1281.4	1303.4	1290.8	1294.7	1303.9
12.5°	1268.0	1288.4	1278.8	1282.8	1291.9
15°	1247.8	1266.0	1255.2	1261.1	1270.2
17.5°	1217.8	1237.6	1226.1	1229.3	1238.4
20°	1195.4	1213.7	1206.6	1206.8	1216.0
22.5°	1168.4	1188.2	1182.7	1178.4	1189.0
25°	1126.2	1144.5	1141.1	1135.7	1143.0
27.5°	1084.3	1097.8	1091.4	1085.9	1091.4
30°	1051.3	1067.8	1056.9	1051.5	1056.9
32.5°	1015.4	1031.9	1021.0	1014.0	1016.5
35°	959.7	974.3	965.3	955.9	955.9
37.5°	906.9	916.4	910.3	894.5	890.5
40°	868.0	879.0	869.9	851.0	845.6
42.5°	827.6	838.6	828.0	807.6	799.2
45°	768.9	776.2	763.2	740.5	729.6
47.5°	708.2	715.9	698.1	673.2	660.0
50°	667.8	677.0	654.7	628.2	613.6
52.5°	628.9	635.1	614.3	583.4	570.2
55°	566.8	574.1	553.7	519.7	503.2
57.5°	508.8	515.8	491.6	459.2	446.3
60°	471.4	476.9	452.7	418.7	405.9
62.5°	429.5	435.0	412.3	382.8	370.0
65°	374.1	376.0	357.3	330.9	321.8
67.5°	322.1	322.1	306.4	286.8	279.5
70°	286.2	286.2	275.0	259.9	252.5
72.5°	253.3	251.8	245.1	234.5	228.6
75°	202.0	202.0	205.8	200.1	196.4
77.5°	157.1	154.2	170.2	169.4	167.6
80°	127.2	127.2	147.8	151.5	149.7
82.5°	100.3	103.2	129.8	135.0	133.2
85°	61.7	74.5	102.9	110.4	110.4
87.5°	28.1	51.0	82.0	92.3	92.7
90°	5.6	39.6	73.3	87.5	89.4
92.5°	18.7	38.1	68.4	85.1	90.8
95°	42.5	61.0	63.1	79.3	86.9
97.5°	64.6	95.7	203.1	90.9	86.1
100°	78.9	115.5	373.1	135.1	103.9
102.5°	91.7	130.6	490.7	298.2	177.2
105°	110.8	149.2	547.1	703.9	475.2
107.5°	130.0	156.5	518.7	1010.4	948.9
110°	142.7	168.4	502.9	1058.1	1138.4



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	157.0	182.7	488.6	1025.5	1159.2
115°	176.5	204.1	467.2	967.1	1129.8
117.5°	196.3	225.4	461.5	902.6	1069.9
120°	211.4	239.7	450.5	853.7	1028.0
122.5°	223.3	252.4	438.6	813.0	973.4
125°	242.2	270.5	438.6	763.8	903.2
127.5°	257.2	288.3	439.2	706.7	844.4
130°	265.2	300.1	441.6	668.5	799.3
132.5°	274.1	309.0	440.1	651.4	758.8
135°	291.2	323.1	439.7	629.0	722.0
137.5°	306.0	340.3	439.7	604.4	684.0
140°	317.9	349.9	439.7	589.9	662.6
142.5°	329.8	359.4	442.1	573.2	641.2
145°	344.7	373.7	442.7	548.0	606.1
147.5°	362.5	388.1	446.3	529.9	574.6
150°	374.4	397.6	448.7	517.8	555.6
152.5°	386.3	407.2	448.7	508.2	539.0
155°	404.1	418.6	451.6	496.7	520.0
157.5°	418.3	432.3	455.2	489.4	506.3
160°	427.9	439.5	457.6	484.6	499.2
162.5°	435.0	446.6	459.9	482.2	492.0
165°	448.7	454.5	463.5	475.6	484.3
167.5°	456.4	461.6	466.5	472.5	477.8
170°	463.5	466.4	466.5	472.5	475.4
172.5°	465.9	471.1	468.9	470.1	473.0
175°	472.4	475.3	472.4	469.4	466.5
177.5°	472.4	474.7	472.4	472.4	470.0
180°	472.4	472.4	472.4	472.4	472.4

(END OF REPORT)