

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: P644428

Luminaire Tested: CRQ4DIP-SR4F0-75D25U840-FLLOOB-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644428  
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-SR4F0-75D25U840-FLLOOB-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 750 LUMENS PER FOOT  
UPLIGHT - BATWING OPTIC - 250 LUMENS PER FOOT  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

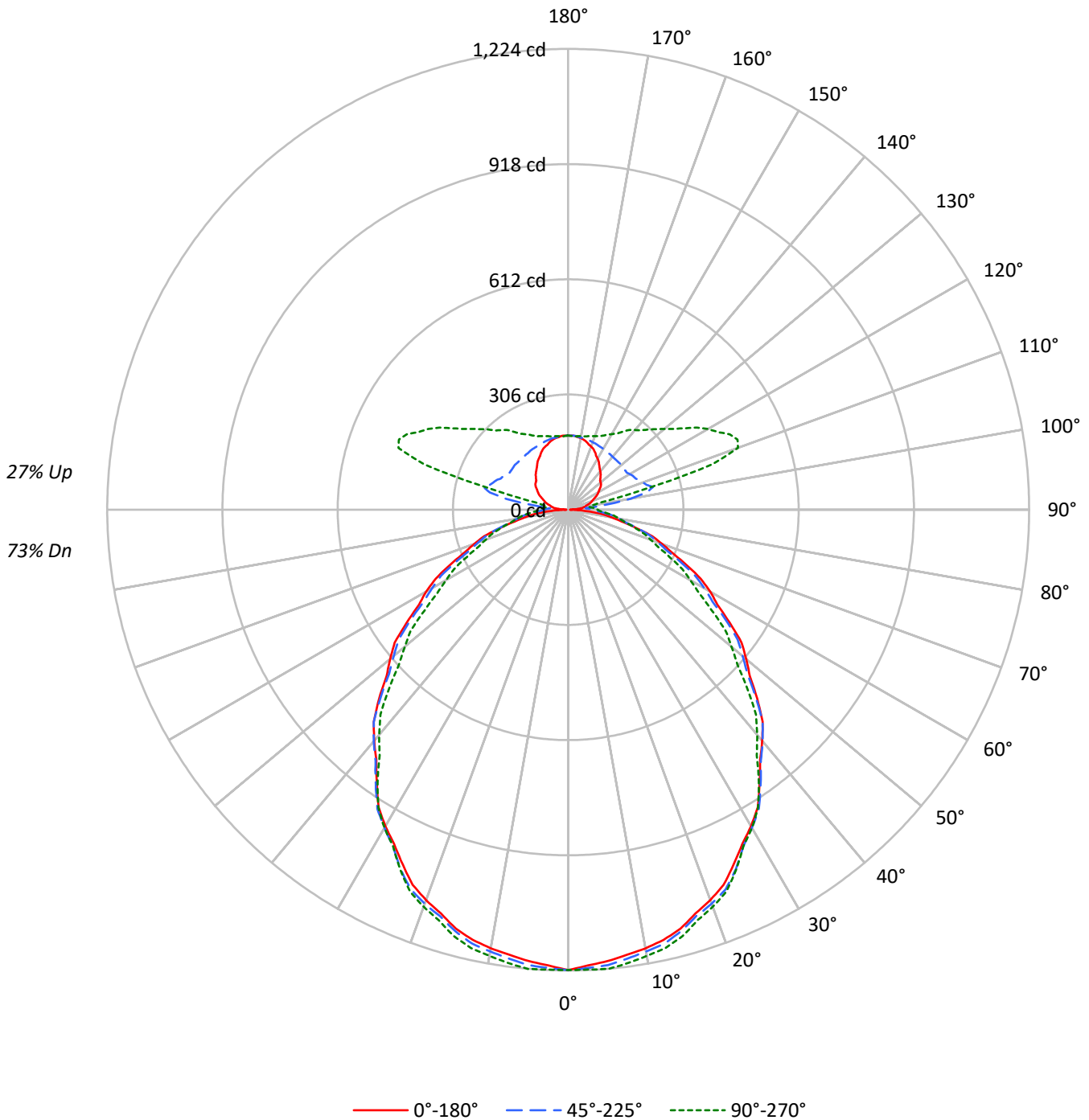
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4210.6 lumens  
Efficiency: N/A  
Efficacy: 139.9 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): 30.1  
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	113	113	113	113	107	107	107	107	96	96	96	87	87	87	78	78	78	73				
1	103	98	94	90	97	93	90	86	84	81	79	76	74	72	68	67	65	61				
2	94	86	79	74	89	82	76	71	74	69	65	67	63	60	60	57	55	51				
3	86	76	68	62	81	72	65	60	65	60	55	59	55	51	53	50	47	44				
4	78	67	59	53	74	64	57	51	58	52	47	53	48	44	48	44	41	38				
5	72	60	52	45	68	57	50	44	52	46	41	48	42	38	43	39	36	33				
6	67	54	46	40	63	52	44	38	47	41	36	43	38	34	39	35	31	29				
7	62	49	41	35	59	47	39	34	43	37	32	39	34	30	36	32	28	26				
8	58	45	37	31	55	43	35	30	39	33	29	36	31	27	33	29	25	23				
9	54	41	33	28	51	39	32	27	36	30	26	33	28	24	31	26	23	21				
10	50	38	30	25	48	36	29	25	34	28	23	31	26	22	29	24	21	19				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	19740	19740	19740
5°	19366	17430	16888
10°	19113	15507	14588
15°	18832	13887	12761
20°	18401	12458	11161
25°	17828	11124	9726
30°	17263	9830	8442
35°	16499	8645	7246
40°	15783	7569	6142
45°	14959	6504	5126
50°	14087	5509	4205
55°	13161	4635	3391
60°	12281	3800	2710
65°	11195	3029	2145
70°	10149	2374	1694
75°	8874	1824	1336
80°	7413	1356	1040
85°	5408	987	791

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 14959 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	115.4	2.7
10°-20°	327.5	7.8
20°-30°	483.4	11.5
30°-40°	555.8	13.2
40°-50°	539.1	12.8
50°-60°	451.3	10.7
60°-70°	325.2	7.7
70°-80°	198.7	4.7
80°-90°	97.0	2.3
90°-100°	62.4	1.5
100°-110°	186.4	4.4
110°-120°	239.1	5.7
120°-130°	192.7	4.6
130°-140°	153.6	3.6
140°-150°	120.9	2.9
150°-160°	88.4	2.1
160°-170°	54.9	1.3
170°-180°	18.7	0.4
0°-30°	926.3	22.0
0°-40°	1482.0	35.2
0°-60°	2472.5	58.7
0°-90°	3093.3	73.5
90°-120°	488.0	11.6
90°-150°	955.3	22.7
90°-180°	1117.0	26.5
0°-180°	4210.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1223	1223	1223	1223	1223	
5°	1204	1226	1214	1216	1224	114
15°	1152	1169	1159	1164	1172	324
25°	1040	1056	1053	1048	1055	479
35°	886	899	891	882	882	555
45°	710	716	704	684	674	547
55°	523	530	511	480	464	469
65°	345	347	330	306	297	344
75°	186	186	190	185	181	199
85°	57	69	95	102	102	60
90°	5	35	65	76	78	7
95°	27	34	46	60	64	26
105°	56	66	233	302	209	59
115°	80	88	197	405	473	79
125°	105	115	184	318	377	93
135°	121	135	183	262	301	94
145°	144	156	185	228	253	90
155°	168	175	188	207	217	77
165°	187	190	193	198	202	53
175°	197	198	197	196	194	19
180°	197	197	197	197	197	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1222.6	1222.6	1222.6	1222.6	1222.6
2.5°	1211.5	1229.1	1218.5	1221.2	1222.6
5°	1203.6	1225.5	1214.0	1215.9	1224.3
7.5°	1192.5	1212.8	1202.6	1204.9	1214.7
10°	1182.9	1203.1	1191.5	1195.2	1203.6
12.5°	1170.4	1189.4	1180.5	1184.1	1192.5
15°	1151.8	1168.7	1158.7	1164.1	1172.5
17.5°	1124.2	1142.4	1131.8	1134.7	1143.2
20°	1103.4	1120.3	1113.8	1114.0	1122.4
22.5°	1078.6	1096.8	1091.7	1087.8	1097.6
25°	1039.6	1056.4	1053.4	1048.3	1055.1
27.5°	1000.9	1013.4	1007.4	1002.4	1007.4
30°	970.5	985.7	975.7	970.6	975.7
32.5°	937.3	952.5	942.5	936.0	938.4
35°	885.9	899.4	891.0	882.4	882.4
37.5°	837.2	845.9	840.3	825.7	822.0
40°	801.2	811.4	803.0	785.6	780.5
42.5°	763.9	774.1	764.3	745.5	737.7
45°	709.7	716.5	704.5	683.6	673.5
47.5°	653.8	660.9	644.5	621.4	609.2
50°	616.5	624.9	604.4	579.9	566.4
52.5°	580.6	586.3	567.1	538.5	526.3
55°	523.2	530.0	511.1	479.7	464.5
57.5°	469.7	476.1	453.8	423.8	412.0
60°	435.2	440.2	417.9	386.5	374.7
62.5°	396.5	401.5	380.6	353.4	341.6
65°	345.4	347.1	329.8	305.5	297.0
67.5°	297.4	297.4	282.9	264.7	258.0
70°	264.2	264.2	253.8	239.9	233.1
72.5°	233.8	232.5	226.2	216.4	211.0
75°	186.5	186.5	190.0	184.7	181.3
77.5°	145.1	142.4	157.1	156.4	154.7
80°	117.4	117.4	136.4	139.8	138.1
82.5°	92.6	95.3	119.8	124.6	123.0
85°	57.0	68.8	95.0	101.9	101.9
87.5°	25.9	46.7	75.1	84.3	84.7
90°	5.2	35.1	64.6	76.3	78.0
92.5°	13.7	30.1	56.6	69.2	73.3
95°	27.2	34.0	46.2	59.6	63.7
97.5°	38.3	45.5	99.1	57.8	56.9
100°	44.3	53.0	166.9	72.5	61.3
102.5°	48.8	58.6	212.9	137.4	88.1
105°	55.7	66.1	232.9	302.1	208.6
107.5°	62.5	68.2	218.9	426.7	401.9
110°	67.1	73.2	211.6	445.1	479.5



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	73.0	79.1	205.7	429.9	486.6
115°	80.2	88.0	196.7	405.2	473.0
117.5°	87.3	96.9	194.2	377.2	446.9
120°	92.9	102.8	188.8	356.0	428.7
122.5°	97.8	107.4	183.9	339.0	405.9
125°	104.8	114.7	183.9	318.5	376.7
127.5°	109.9	122.1	184.1	294.7	352.1
130°	112.5	127.0	185.1	278.8	333.3
132.5°	114.7	129.2	183.7	271.6	316.4
135°	121.4	134.8	183.4	262.3	301.1
137.5°	127.6	141.9	183.4	252.0	285.2
140°	132.6	145.9	183.4	246.0	276.3
142.5°	137.5	149.9	184.4	239.0	267.4
145°	143.7	155.8	184.6	228.5	252.8
147.5°	151.2	161.8	186.1	221.0	239.6
150°	156.1	165.8	187.1	216.0	231.7
152.5°	161.1	169.8	187.1	211.9	224.8
155°	168.5	174.6	188.3	207.1	216.8
157.5°	174.5	180.3	189.8	204.1	211.1
160°	178.4	183.3	190.8	202.1	208.2
162.5°	181.4	186.2	191.8	201.1	205.2
165°	187.1	189.5	193.3	198.3	202.0
167.5°	190.3	192.5	194.5	197.1	199.2
170°	193.3	194.5	194.5	197.0	198.2
172.5°	194.3	196.5	195.5	196.0	197.3
175°	197.0	198.2	197.0	195.7	194.5
177.5°	197.0	198.0	197.0	197.0	196.0
180°	197.0	197.0	197.0	197.0	197.0

(END OF REPORT)