

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: P644375

Luminaire Tested: CRQ4DIP-SR4F0-50D75U830-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



**Test Information**

Test Method: LM-79-2019  
Report Number: P644375  
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-SR4F0-50D75U830-FLLFLL-1DUDD-WW  
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE  
DOWNLIGHT - CURVED FROSTED LENS - 500 LUMENS PER FOOT  
UPLIGHT - CURVED FROSTED LENS - 750 LUMENS PER FOOT  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

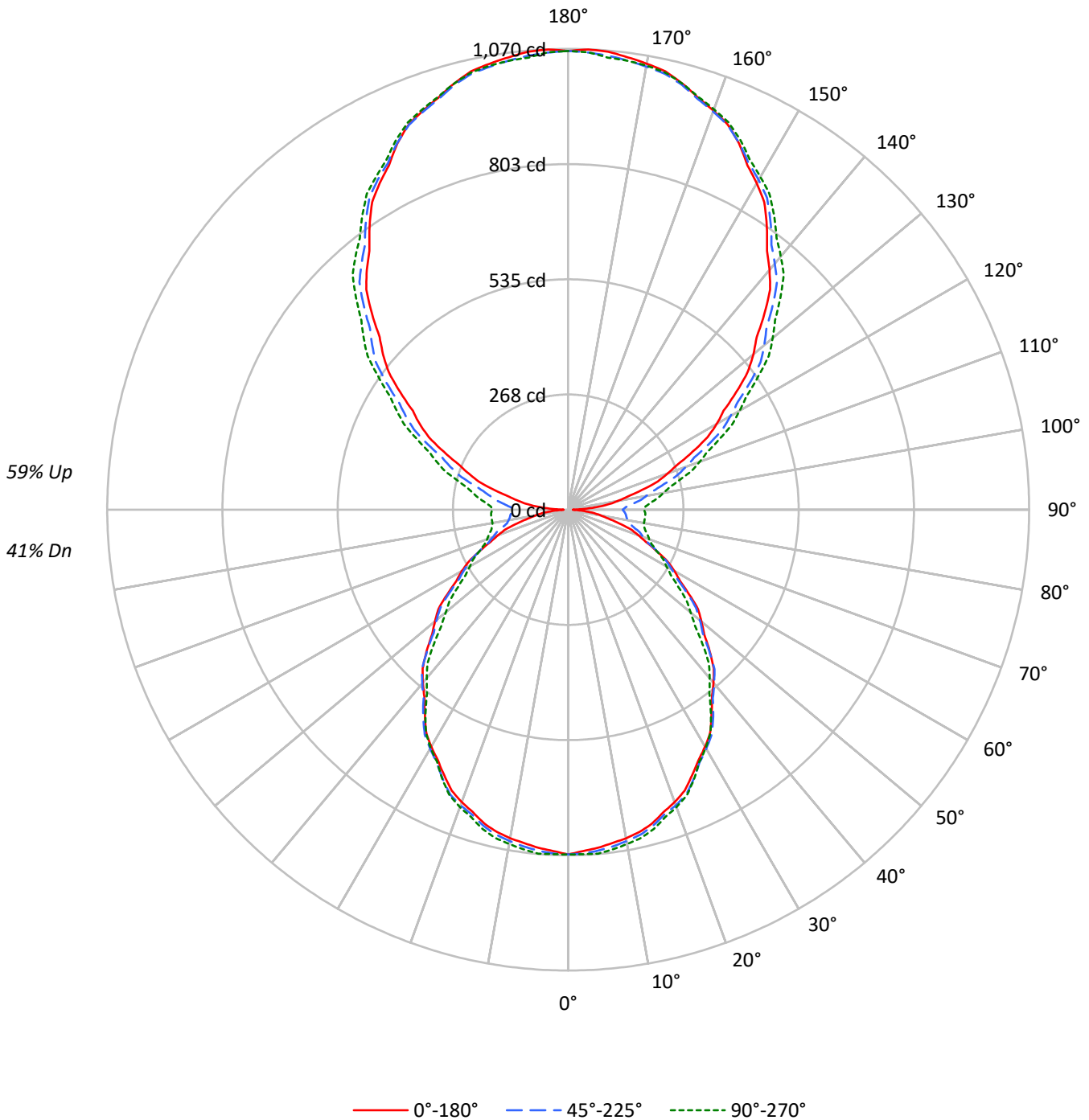
Lumens per Lamp: N/A  
Luminaire Lumens: 5209.2 lumens  
Efficiency: N/A  
Efficacy: 148.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')  
CIE Type: General Diffuse

Input Watts (W): 35.1  
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	0
RCR																		
0	105	105	105	105	96	96	96	96	79	79	79	63	63	63	48	48	48	41
1	95	91	86	83	86	83	79	76	68	65	63	54	52	51	41	40	39	33
2	86	79	73	67	78	72	67	62	59	55	52	47	44	42	36	34	33	28
3	79	69	62	56	71	63	57	52	52	47	43	42	38	36	32	30	28	23
4	72	61	53	47	65	56	49	44	46	41	37	37	33	30	29	26	24	20
5	66	55	46	40	60	50	43	38	41	36	32	33	29	26	26	23	21	17
6	61	49	41	35	55	45	38	33	37	32	28	30	26	23	24	21	18	15
7	56	44	36	31	51	41	34	29	34	28	24	27	23	20	22	19	16	14
8	52	40	32	27	47	37	30	25	31	25	22	25	21	18	20	17	15	12
9	49	36	29	24	44	34	27	22	28	23	19	23	19	16	18	15	13	11
10	45	33	26	21	41	31	24	20	26	21	17	21	17	15	17	14	12	10

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

	0°	45°	90°
0°	12925	12925	12925
5°	12681	11411	11057
10°	12514	10168	9552
15°	12330	9106	8355
20°	12049	8169	7308
25°	11671	7284	6368
30°	11302	6459	5527
35°	10802	5693	4744
40°	10334	4966	4021
45°	9795	4269	3356
50°	9222	3638	2753
55°	8618	3055	2278
60°	8039	2529	1905
65°	7328	2088	1633
70°	6645	1734	1454
75°	5810	1509	1366
80°	4855	1394	1345
85°	3539	1397	1396

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 9795 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.6	1.5
10°-20°	214.6	4.1
20°-30°	316.9	6.1
30°-40°	364.8	7.0
40°-50°	354.1	6.8
50°-60°	299.3	5.7
60°-70°	228.0	4.4
70°-80°	166.1	3.2
80°-90°	132.4	2.5
90°-100°	151.8	2.9
100°-110°	240.9	4.6
110°-120°	354.3	6.8
120°-130°	458.2	8.8
130°-140°	518.2	9.9
140°-150°	512.0	9.8
150°-160°	433.0	8.3
160°-170°	288.3	5.5
170°-180°	100.8	1.9
0°-30°	607.1	11.7
0°-40°	971.8	18.7
0°-60°	1625.2	31.2
0°-90°	2151.7	41.3
90°-120°	747.1	14.3
90°-150°	2235.3	42.9
90°-180°	3058.0	58.7
0°-180°	5209.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	800	800	800	800	800	
5°	788	802	795	796	802	75
15°	754	767	760	762	768	212
25°	681	694	690	686	691	314
35°	580	592	587	578	578	363
45°	465	472	462	448	441	358
55°	343	351	337	318	312	307
65°	226	234	227	226	226	225
75°	122	131	157	179	185	131
85°	37	72	134	170	180	40
90°	11	60	127	164	176	10
95°	62	84	149	186	193	62
105°	178	186	231	262	268	189
115°	319	332	360	381	387	317
125°	476	493	516	534	538	427
135°	644	659	672	689	696	497
145°	804	814	819	824	833	502
155°	938	944	940	941	946	431
165°	1024	1029	1021	1018	1024	289
175°	1067	1072	1058	1054	1054	101
180°	1065	1065	1065	1065	1065	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	800.5	800.5	800.5	800.5	800.5
2.5°	793.3	804.8	798.7	799.6	800.5
5°	788.1	802.4	794.8	796.1	801.6
7.5°	780.8	795.0	788.5	788.9	795.3
10°	774.5	787.8	781.3	782.5	788.1
12.5°	766.3	780.5	773.1	775.3	780.8
15°	754.1	767.4	759.8	762.2	767.7
17.5°	736.0	749.1	742.2	743.0	748.5
20°	722.5	734.6	730.4	729.4	734.9
22.5°	706.2	719.2	715.9	712.2	718.6
25°	680.6	693.9	689.7	686.4	690.8
27.5°	655.3	667.5	661.0	656.3	659.6
30°	635.4	647.6	641.1	635.5	638.8
32.5°	613.7	626.8	619.4	612.8	614.4
35°	580.0	592.2	586.8	577.8	577.8
37.5°	548.1	558.3	551.3	540.6	538.2
40°	524.6	535.7	526.9	514.4	511.0
42.5°	500.2	511.3	502.5	488.1	483.0
45°	464.7	472.4	462.4	447.6	440.9
47.5°	428.1	436.9	423.5	406.8	398.9
50°	403.6	412.5	399.1	379.7	370.9
52.5°	380.1	388.1	373.8	353.5	346.4
55°	342.6	351.4	336.9	317.6	312.1
57.5°	307.5	316.2	300.8	287.7	282.4
60°	284.9	292.7	278.1	267.9	263.4
62.5°	259.6	268.2	255.5	250.7	248.1
65°	226.1	233.9	227.3	226.1	226.1
67.5°	194.7	201.3	200.8	207.6	210.1
70°	173.0	179.6	185.4	196.8	200.1
72.5°	153.1	159.7	173.7	188.7	192.9
75°	122.1	131.0	157.2	178.8	185.4
77.5°	95.0	105.1	145.6	172.5	180.5
80°	76.9	92.4	140.2	169.8	178.6
82.5°	60.6	81.4	136.6	169.8	178.6
85°	37.3	71.6	134.5	169.8	179.8
87.5°	18.5	64.5	131.2	167.8	179.1
90°	11.3	59.9	126.6	164.2	176.4
92.5°	30.3	66.6	133.9	170.5	180.0
95°	62.2	84.3	149.2	185.6	193.3
97.5°	93.8	108.4	168.9	202.8	210.3
100°	116.5	127.5	184.3	217.2	223.9
102.5°	140.9	149.3	202.4	233.5	241.1
105°	177.5	186.4	230.7	262.4	268.0
107.5°	218.2	227.7	265.2	295.2	301.0
110°	245.3	257.5	290.6	317.9	324.5

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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°
112.5°	275.2	287.4	316.8	342.3	348.9
115°	318.8	332.1	359.5	381.2	386.7
117.5°	364.5	378.7	403.6	423.9	429.2
120°	398.0	411.3	435.3	454.6	459.0
122.5°	427.8	442.9	467.0	486.3	490.7
125°	476.0	492.6	515.6	533.8	538.2
127.5°	525.5	541.7	562.8	581.3	587.0
130°	560.8	575.2	593.6	613.0	619.6
132.5°	593.4	607.7	624.3	643.7	651.2
135°	644.5	658.8	671.6	688.7	696.5
137.5°	693.5	707.5	717.3	730.8	740.6
140°	727.0	739.2	746.2	758.9	767.7
142.5°	757.8	769.9	775.2	786.0	794.8
145°	803.9	813.8	818.6	824.4	833.3
147.5°	847.1	856.8	858.8	863.9	869.5
150°	875.1	884.0	884.2	886.5	892.1
152.5°	901.3	909.3	906.8	908.3	914.7
155°	938.4	944.0	939.6	940.8	946.3
157.5°	967.8	973.4	966.5	968.6	973.0
160°	985.9	991.4	983.7	984.9	989.3
162.5°	1003.1	1006.9	999.9	998.5	1004.7
165°	1024.4	1028.8	1021.0	1017.7	1024.4
167.5°	1042.5	1046.9	1036.6	1033.1	1039.7
170°	1051.5	1055.9	1044.7	1040.3	1047.0
172.5°	1059.6	1064.1	1051.9	1046.6	1051.5
175°	1067.3	1071.7	1058.3	1053.8	1053.8
177.5°	1069.6	1072.2	1062.4	1057.9	1063.3
180°	1065.1	1065.1	1065.1	1065.1	1065.1

(END OF REPORT)