

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: P644376

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

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644376
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-SR4F0-50D75U830-FLLOOB-1DUDD-WW
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE
DOWNLIGHT - CURVED FROSTED LENS - 500 LUMENS PER FOOT
UPLIGHT - BATWING OPTIC - 750 LUMENS PER FOOT
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

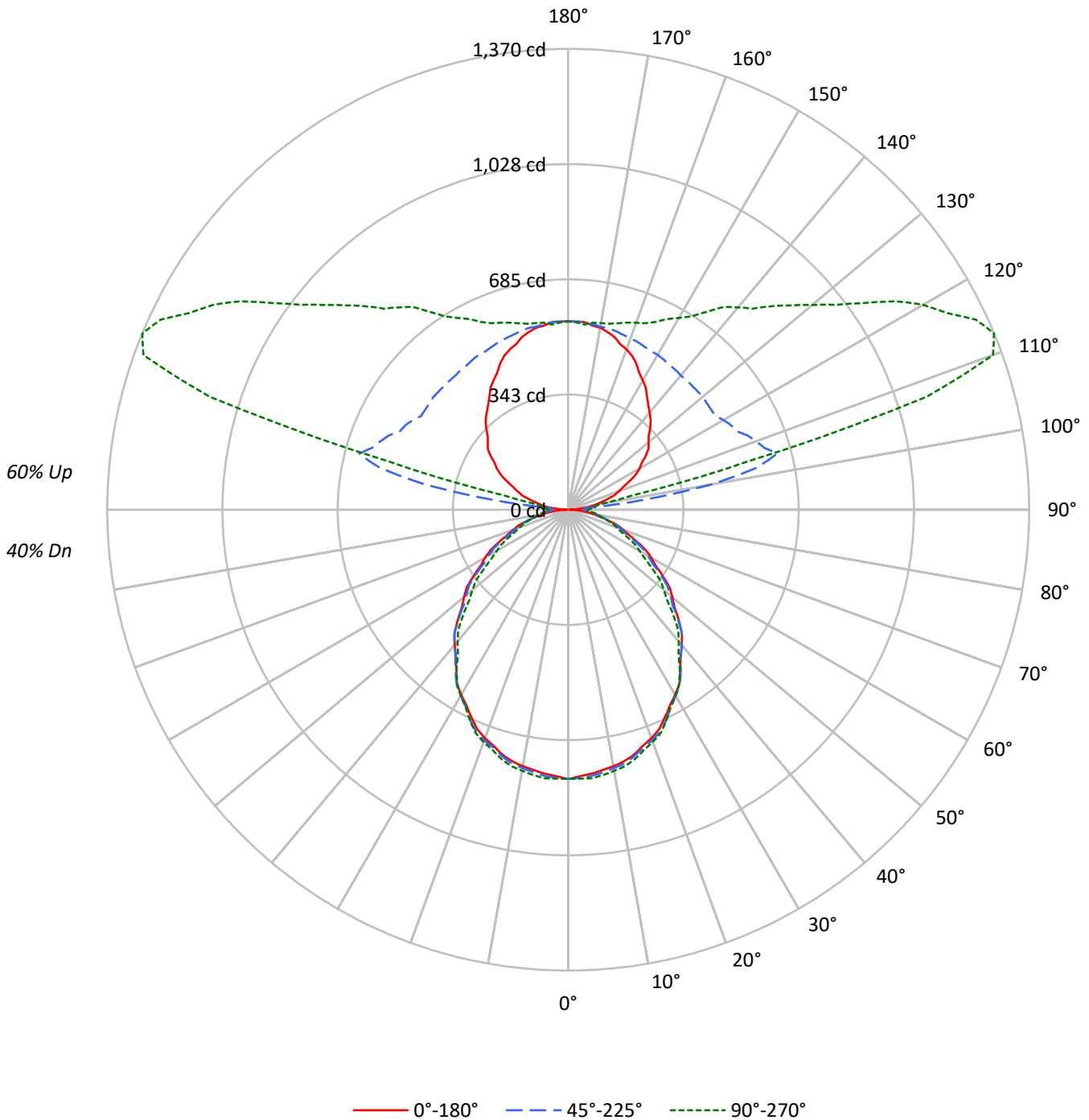
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5071.9 lumens
Efficiency: N/A
Efficacy: 144.5 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-Indirect

Input Watts (W): 35.1
Input Voltage (V): 120
Input Current (A_{in}): 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	95	95	95	95	78	78	78	62	62	62	47	47	47	40
1	95	91	87	84	87	83	80	77	68	66	63	54	52	51	41	40	39	33
2	87	80	73	68	79	73	67	63	59	56	53	47	45	43	36	35	33	28
3	79	70	63	57	72	64	58	53	53	48	44	42	39	36	32	30	28	24
4	73	62	54	48	66	57	50	45	47	42	38	37	34	31	29	26	24	20
5	67	55	47	41	60	51	44	38	42	37	33	34	30	27	26	23	21	18
6	61	49	41	36	56	45	38	33	38	32	28	30	27	24	24	21	19	16
7	57	45	37	31	51	41	34	29	34	29	25	28	24	21	22	19	17	14
8	53	40	33	28	48	37	30	26	31	26	22	25	21	19	20	17	15	13
9	49	37	30	25	44	34	27	23	28	23	20	23	19	17	18	16	14	11
10	46	34	27	22	42	31	25	21	26	21	18	21	18	15	17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12925	12925	12925
5°	12681	11411	11057
10°	12514	10153	9552
15°	12330	9093	8355
20°	12049	8157	7308
25°	11671	7284	6368
30°	11302	6436	5527
35°	10802	5660	4744
40°	10334	4955	4021
45°	9795	4259	3356
50°	9222	3607	2753
55°	8618	3035	2220
60°	8039	2488	1774
65°	7328	1984	1405
70°	6645	1554	1109
75°	5810	1194	875
80°	4855	888	682
85°	3539	646	518

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°	214.4	4.2
20°-30°	316.5	6.2
30°-40°	363.9	7.2
40°-50°	353.0	7.0
50°-60°	295.5	5.8
60°-70°	212.9	4.2
70°-80°	130.1	2.6
80°-90°	64.5	1.3
90°-100°	93.8	1.9
100°-110°	499.5	9.8
110°-120°	669.0	13.2
120°-130°	543.2	10.7
130°-140°	436.0	8.6
140°-150°	343.6	6.8
150°-160°	251.2	5.0
160°-170°	156.1	3.1
170°-180°	53.2	1.0
0°-30°	606.5	12.0
0°-40°	970.4	19.1
0°-60°	1618.8	31.9
0°-90°	2026.3	40.0
90°-120°	1262.3	24.9
90°-150°	2585.1	51.0
90°-180°	3046.0	60.1
0°-180°	5071.9	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	765	759	762	768	212
25°	681	692	690	686	691	314
35°	580	589	583	578	578	363
45°	465	469	461	448	441	358
55°	343	347	335	314	304	307
65°	226	227	216	200	194	225
75°	122	122	124	121	119	131
85°	37	45	62	67	67	39
90°	3	26	48	58	59	5
95°	40	62	52	64	72	41
105°	120	172	643	824	551	127
115°	202	238	552	1144	1337	200
125°	283	318	519	905	1070	251
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°	800.5	800.5	800.5	800.5	800.5
2.5°	793.3	804.8	797.8	799.6	800.5
5°	788.1	802.4	794.8	796.1	801.6
7.5°	780.8	794.1	787.4	788.9	795.3
10°	774.5	787.8	780.1	782.5	788.1
12.5°	766.3	778.7	772.9	775.3	780.8
15°	754.1	765.2	758.7	762.2	767.7
17.5°	736.0	748.0	741.0	743.0	748.5
20°	722.5	733.5	729.3	729.4	734.9
22.5°	706.2	718.1	714.8	712.2	718.6
25°	680.6	691.7	689.7	686.4	690.8
27.5°	655.3	663.5	659.6	656.3	659.6
30°	635.4	645.4	638.8	635.5	638.8
32.5°	613.7	623.7	617.1	612.8	614.4
35°	580.0	588.9	583.4	577.8	577.8
37.5°	548.1	553.9	550.2	540.6	538.2
40°	524.6	531.3	525.7	514.4	511.0
42.5°	500.2	506.8	500.4	488.1	483.0
45°	464.7	469.1	461.3	447.6	440.9
47.5°	428.1	432.7	422.0	406.8	398.9
50°	403.6	409.2	395.7	379.7	370.9
52.5°	380.1	383.9	371.3	352.6	344.6
55°	342.6	347.0	334.7	314.1	304.1
57.5°	307.5	311.7	297.1	277.5	269.8
60°	284.9	288.2	273.6	253.1	245.3
62.5°	259.6	262.9	249.2	231.4	223.6
65°	226.1	227.2	216.0	200.0	194.5
67.5°	194.7	194.7	185.2	173.3	168.9
70°	173.0	173.0	166.2	157.1	152.6
72.5°	153.1	152.2	148.1	141.7	138.2
75°	122.1	122.1	124.4	120.9	118.7
77.5°	95.0	93.2	102.9	102.4	101.3
80°	76.9	76.9	89.3	91.6	90.5
82.5°	60.6	62.4	78.5	81.6	80.5
85°	37.3	45.0	62.2	66.7	66.7
87.5°	17.0	31.1	50.3	56.8	57.1
90°	3.4	25.6	47.7	58.1	59.2
92.5°	15.5	28.9	49.0	62.2	66.9
95°	39.5	62.5	51.9	63.5	71.5
97.5°	63.6	107.0	224.2	84.8	77.9
100°	80.5	131.2	429.0	141.6	102.5
102.5°	96.5	150.0	571.8	338.3	193.7
105°	120.4	172.3	642.9	824.3	551.1
107.5°	144.4	182.1	611.5	1191.1	1117.1
110°	160.4	196.2	593.7	1249.4	1343.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	177.3	213.1	576.8	1212.4	1369.8
115°	201.5	238.4	551.5	1143.8	1336.6
117.5°	226.2	263.8	544.9	1068.6	1266.9
120°	245.1	280.7	532.7	1011.6	1218.1
122.5°	259.1	296.7	518.7	963.3	1153.3
125°	282.6	318.3	518.7	905.0	1070.3
127.5°	301.7	339.4	519.4	837.4	1000.5
130°	312.1	353.4	522.2	792.1	947.0
132.5°	324.3	365.7	521.3	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)