

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: P644431

Luminaire Tested: CRQ4DIP-SR4F0-75D25U935-FLLFLL-1DUDD-WW

Issue Date: 2/20/2023



Test Information

Test Method: LM-79-2019
Report Number: P644431
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-SR4F0-75D25U935-FLLFLL-1DUDD-WW
Description: NEO-RAY CIRQUE SUSPENDED LED LUMINAIRE
DOWNLIGHT - CURVED FROSTED LENS - 750 LUMENS PER FOOT
UPLIGHT - CURVED FROSTED LENS - 250 LUMENS PER FOOT
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

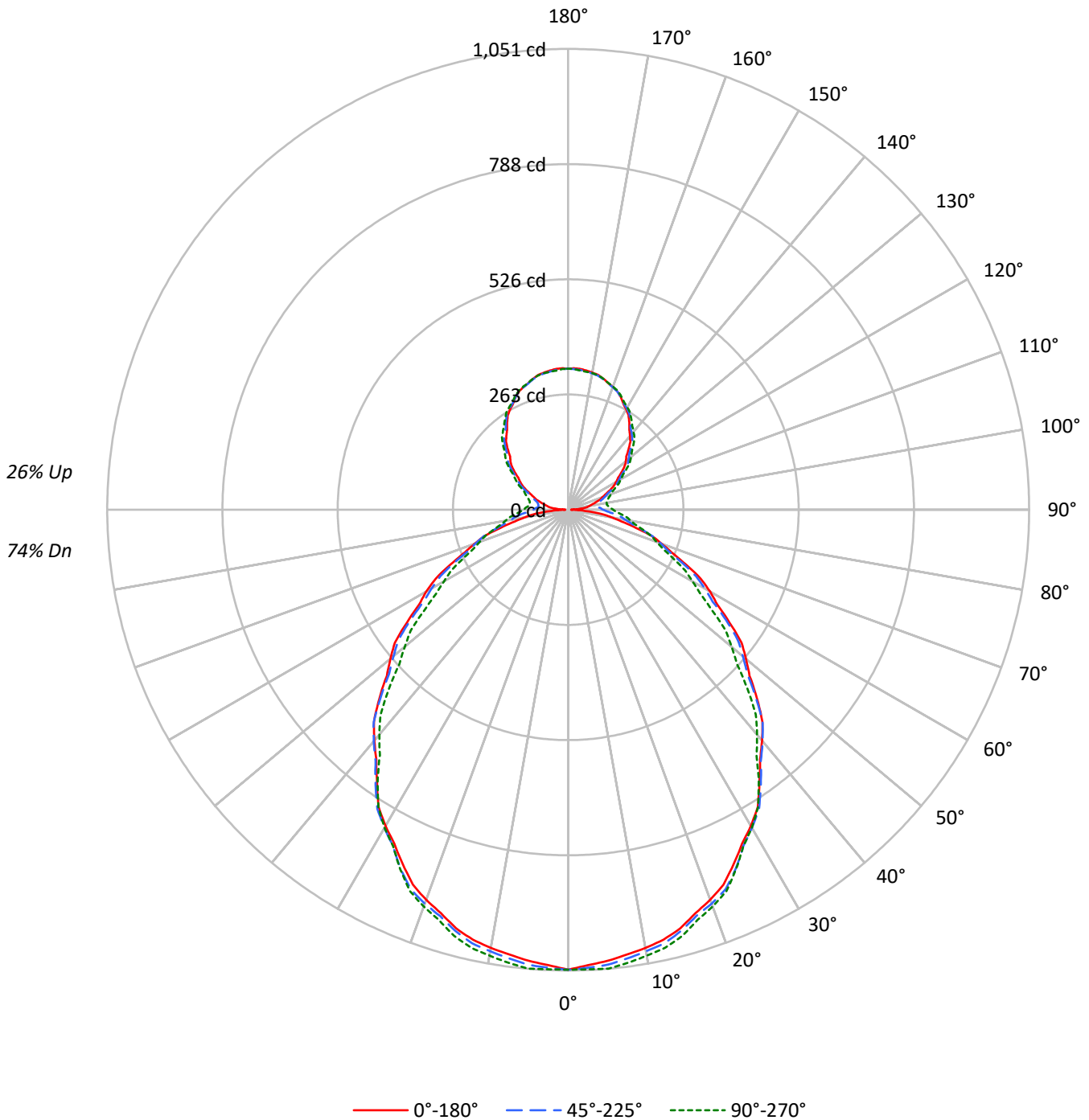
Lumens per Lamp: N/A
Luminaire Lumens: 3654.5 lumens
Efficiency: N/A
Efficacy: 121.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.19 / 1.3
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.33')
CIE Type: Semi-Direct

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										
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	50	30	10	0														
RCR																																						
0	113	113	113	113	107	107	107	107	96	96	96	87	87	87	78	78	78	74																				
1	103	98	94	90	97	93	89	86	84	81	78	76	73	71	68	66	65	61																				
2	93	85	79	73	88	81	76	71	74	69	65	66	63	60	60	57	55	51																				
3	85	75	68	61	81	72	65	59	65	59	55	59	54	51	53	50	47	43																				
4	78	67	59	52	74	64	56	50	58	52	47	53	48	44	48	44	40	37																				
5	72	60	51	45	68	57	49	44	52	46	41	47	42	38	43	39	35	33																				
6	66	54	45	39	63	52	44	38	47	41	36	43	38	33	39	35	31	29																				
7	62	49	41	35	58	47	39	34	43	36	32	39	34	30	36	31	28	25																				
8	57	45	36	31	54	43	35	30	39	33	28	36	31	27	33	28	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	24	33	27	23	31	26	22	28	24	21	19																				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	16939	16939	16939
5°	16618	14956	14492
10°	16400	13310	12518
15°	16159	11920	10950
20°	15789	10694	9577
25°	15297	9546	8345
30°	14812	8442	7244
35°	14156	7428	6218
40°	13543	6498	5270
45°	12836	5585	4399
50°	12087	4736	3608
55°	11295	3984	2927
60°	10537	3272	2365
65°	9604	2631	1910
70°	8708	2091	1558
75°	7613	1660	1295
80°	6364	1316	1094
85°	4640	1073	944

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 12836 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.0	2.7
10°-20°	281.0	7.7
20°-30°	414.9	11.4
30°-40°	477.2	13.1
40°-50°	462.9	12.7
50°-60°	388.4	10.6
60°-70°	283.6	7.8
70°-80°	181.4	5.0
80°-90°	103.7	2.8
90°-100°	71.0	1.9
100°-110°	81.9	2.2
110°-120°	110.2	3.0
120°-130°	139.7	3.8
130°-140°	156.6	4.3
140°-150°	154.6	4.2
150°-160°	130.8	3.6
160°-170°	87.1	2.4
170°-180°	30.4	0.8
0°-30°	795.0	21.8
0°-40°	1272.1	34.8
0°-60°	2123.5	58.1
0°-90°	2692.1	73.7
90°-120°	263.1	7.2
90°-150°	714.1	19.5
90°-180°	962.0	26.3
0°-180°	3654.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1049	1049	1049	1049	1049	
5°	1033	1052	1042	1043	1051	98
15°	988	1004	995	999	1006	278
25°	892	907	904	900	905	411
35°	760	773	766	757	757	476
45°	609	616	605	587	578	469
55°	449	456	439	413	401	403
65°	296	300	286	270	264	295
75°	160	163	173	176	176	171
85°	49	67	103	119	122	52
90°	7	40	79	98	102	7
95°	30	36	69	88	92	28
105°	65	61	75	90	94	69
115°	104	104	111	117	119	103
125°	148	151	157	161	162	133
135°	195	199	203	208	210	150
145°	243	246	247	249	252	152
155°	283	285	284	284	286	130
165°	309	311	308	307	309	87
175°	322	324	320	318	318	31
180°	322	322	322	322	322	

TEST NUMBER: P644431

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1049.1	1049.1	1049.1	1049.1	1049.1
2.5°	1039.6	1054.7	1045.8	1047.9	1049.1
5°	1032.8	1051.6	1041.7	1043.3	1050.6
7.5°	1023.3	1040.9	1032.2	1033.9	1042.3
10°	1015.0	1032.4	1022.7	1025.5	1032.8
12.5°	1004.3	1021.1	1013.0	1016.0	1023.3
15°	988.3	1003.5	994.6	998.9	1006.1
17.5°	964.6	980.6	971.5	973.7	980.9
20°	946.8	961.7	956.1	955.9	963.1
22.5°	925.5	941.5	937.1	933.4	941.8
25°	892.0	907.2	903.9	899.6	905.3
27.5°	858.8	870.7	864.9	860.1	864.5
30°	832.7	846.4	837.9	832.8	837.2
32.5°	804.3	818.3	809.4	803.2	805.2
35°	760.1	772.7	765.6	757.2	757.2
37.5°	718.4	727.2	721.4	708.5	705.3
40°	687.5	697.6	689.4	674.1	669.7
42.5°	655.5	665.6	656.4	639.7	633.0
45°	609.0	615.8	604.9	586.6	577.9
47.5°	561.0	568.3	553.5	533.2	522.8
50°	529.0	537.2	519.6	497.6	486.0
52.5°	498.2	504.4	487.4	462.3	452.2
55°	449.0	456.1	439.3	412.7	401.0
57.5°	403.0	409.9	390.5	366.8	357.4
60°	373.4	379.1	359.9	336.1	327.0
62.5°	340.2	346.2	328.5	309.1	300.5
65°	296.3	299.8	286.4	270.0	264.4
67.5°	255.2	257.2	247.4	237.5	233.8
70°	226.7	228.7	223.6	217.8	214.4
72.5°	200.6	201.7	201.8	199.9	197.6
75°	160.0	162.7	172.9	176.0	175.7
77.5°	124.5	125.8	147.7	155.4	156.7
80°	100.8	105.4	132.4	143.6	145.2
82.5°	79.4	87.5	120.4	133.6	135.1
85°	48.9	67.1	103.3	118.6	121.6
87.5°	22.7	50.2	88.9	105.9	109.5
90°	6.8	40.5	79.3	97.5	102.3
92.5°	16.2	37.2	74.2	92.1	97.0
95°	30.2	35.7	69.0	88.0	91.5
97.5°	42.0	39.5	68.3	85.2	88.8
100°	48.9	44.4	69.3	85.0	89.3
102.5°	55.3	50.0	71.2	86.3	89.9
105°	65.0	61.0	75.4	89.6	93.5
107.5°	75.9	72.3	83.3	95.6	98.4
110°	83.2	81.3	90.0	100.6	103.7



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	92.2	90.3	98.0	106.1	109.2
115°	104.3	103.8	110.9	117.4	119.1
117.5°	116.7	117.8	123.9	128.9	130.5
120°	125.9	127.7	132.6	137.3	138.6
122.5°	134.9	136.3	142.2	146.9	148.2
125°	148.3	151.1	156.8	161.2	162.5
127.5°	161.9	165.9	171.1	175.5	177.3
130°	171.6	176.0	180.4	185.1	187.1
132.5°	179.6	184.0	188.8	194.4	196.7
135°	194.6	199.0	202.8	208.0	210.3
137.5°	209.4	213.6	216.6	220.7	223.6
140°	219.5	223.2	225.4	229.2	231.8
142.5°	228.8	232.5	234.1	237.4	240.0
145°	242.8	245.8	247.2	249.0	251.6
147.5°	255.8	258.7	259.4	260.9	262.6
150°	264.3	266.9	267.0	267.7	269.4
152.5°	272.2	274.6	273.8	274.3	276.2
155°	283.4	285.1	283.7	284.1	285.8
157.5°	292.3	293.9	291.9	292.5	293.8
160°	297.7	299.4	297.1	297.4	298.8
162.5°	302.9	304.1	302.0	301.5	303.4
165°	309.3	310.7	308.3	307.3	309.3
167.5°	314.8	316.1	313.0	312.0	314.0
170°	317.5	318.9	315.5	314.2	316.2
172.5°	320.0	321.3	317.7	316.1	317.5
175°	322.3	323.7	319.6	318.2	318.2
177.5°	323.0	323.8	320.8	319.5	321.1
180°	321.6	321.6	321.6	321.6	321.6

(END OF REPORT)