

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: P1056177

Luminaire Tested: S124R3DR-H575D840-X4F0-XX-UDD-FLL-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1056177
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-7)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124R3DR-H575D840-X4F0-XX-UDD-FLL-W
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

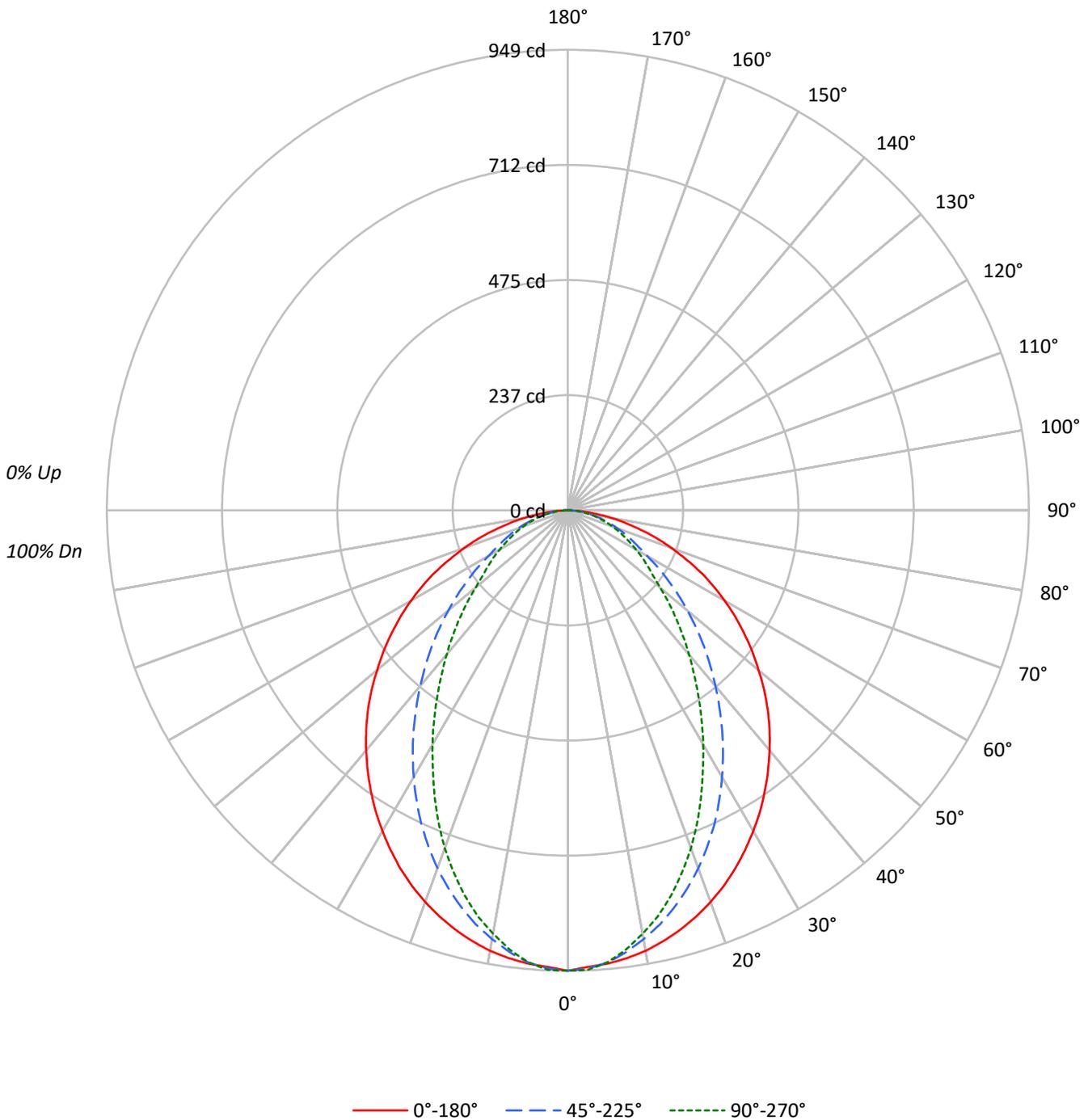
Lumens per Lamp: N/A
Luminaire Lumens: 1890.1 lumens
Efficiency: N/A
Efficacy: 109.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 17.3
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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	102	98	107	103	100	97	99	96	93	95	93	91	92	90	88	86
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	76	73
3	93	83	75	69	90	81	74	69	79	73	68	76	71	67	73	69	65	63
4	85	74	66	60	83	73	65	60	71	64	59	68	63	58	66	61	57	55
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49
6	73	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	43
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	39
8	64	51	43	38	62	51	43	38	49	42	37	48	42	37	47	41	37	35
9	60	47	39	34	59	47	39	34	46	39	34	45	38	34	44	38	34	32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8390	8390	8390
5°	8323	8304	8298
10°	8275	8056	7955
15°	8188	7753	7517
20°	8081	7385	6971
25°	7950	6961	6335
30°	7792	6480	5689
35°	7628	5976	5064
40°	7455	5456	4480
45°	7273	4950	3937
50°	7049	4418	3400
55°	6835	3886	3089
60°	6594	3333	2865
65°	6297	3023	2674
70°	5847	2797	2528
75°	5295	2576	2384
80°	4623	2383	2240
85°	3540	2191	2049

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7273 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.3	4.7
10°-20°	239.7	12.7
20°-30°	331.8	17.6
30°-40°	356.1	18.8
40°-50°	323.9	17.1
50°-60°	255.1	13.5
60°-70°	174.6	9.2
70°-80°	94.0	5.0
80°-90°	26.6	1.4
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	659.8	34.9
0°-40°	1016.0	53.8
0°-60°	1594.9	84.4
0°-90°	1890.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1890.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	949	949	949	949	949	
5°	938	948	936	931	935	89
15°	894	885	847	824	821	252
25°	815	781	714	662	649	375
35°	707	652	554	487	469	442
45°	582	508	396	328	315	448
55°	443	359	252	203	200	396
65°	301	215	144	128	128	297
75°	155	94	75	69	70	165
85°	35	24	22	20	20	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	949.0	949.0	949.0	949.0	949.0
2.5°	942.0	953.1	944.8	946.2	947.6
5°	937.8	948.3	935.7	930.8	935.0
7.5°	930.8	937.8	918.2	909.2	913.3
10°	921.7	923.1	897.3	884.0	886.1
12.5°	909.2	905.7	874.2	855.4	856.8
15°	894.5	884.7	847.0	824.0	821.2
17.5°	877.7	861.7	817.0	787.7	782.1
20°	858.9	837.2	784.9	747.2	740.9
22.5°	837.9	810.0	749.9	705.3	696.2
25°	814.9	781.4	713.6	662.0	649.4
27.5°	789.7	750.6	674.5	618.0	601.9
30°	763.2	718.5	634.7	574.0	557.2
32.5°	736.0	685.7	594.2	530.0	512.5
35°	706.7	651.5	553.7	486.7	469.2
37.5°	676.6	615.9	512.5	444.8	426.6
40°	645.9	580.3	472.7	402.9	388.2
42.5°	614.5	544.0	433.6	363.8	350.5
45°	581.7	507.6	395.9	327.5	314.9
47.5°	548.1	470.6	357.5	293.3	281.4
50°	512.5	433.6	321.2	259.8	247.2
52.5°	478.3	395.9	286.3	226.9	220.7
55°	443.4	358.9	252.1	203.2	200.4
57.5°	408.5	321.9	220.7	184.3	181.6
60°	372.9	285.6	188.5	164.8	162.0
62.5°	337.3	250.0	164.8	145.9	144.5
65°	301.0	215.1	144.5	128.5	127.8
67.5°	262.6	181.6	126.4	113.1	112.4
70°	226.2	148.0	108.2	97.8	97.8
72.5°	192.0	117.3	91.5	83.1	83.1
75°	155.0	94.3	75.4	69.1	69.8
77.5°	122.2	74.0	60.7	56.6	56.6
80°	90.8	55.2	46.8	43.3	44.0
82.5°	61.4	38.4	33.5	31.4	31.4
85°	34.9	23.7	21.6	20.2	20.2
87.5°	12.6	11.2	10.5	9.1	9.8
90°	0.0	0.0	0.0	0.0	0.0



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CIE UGR TABLE:

Reflectances:											
Ceiling		0.7	0.7	0.5	0.5	0.3	0.7	0.7	0.5	0.5	0.3
Wall		0.5	0.3	0.5	0.3	0.3	0.5	0.3	0.5	0.3	0.3
Reference plane		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Room dimensions		Viewed crosswise					Viewed endwise				
X=2H	Y=2H	18.53	20.06	18.90	20.37	20.68	14.31	15.83	14.67	16.15	16.46
	3H	20.31	21.68	20.68	22.00	22.37	15.92	17.29	16.30	17.62	17.98
	4H	20.98	22.26	21.38	22.61	22.99	16.55	17.84	16.95	18.19	18.56
	6H	21.49	22.68	21.90	23.04	23.44	17.05	18.24	17.46	18.61	19.00
	8H	21.65	22.78	22.08	23.17	23.57	17.22	18.35	17.65	18.74	19.14
	12H	21.75	22.83	22.18	23.22	23.65	17.34	18.43	17.77	18.81	19.24
4H	2H	18.63	19.91	19.03	20.26	20.64	15.03	16.31	15.43	16.66	17.04
	3H	20.57	21.64	20.98	22.04	22.44	16.83	17.90	17.25	18.30	18.71
	4H	21.33	22.29	21.76	22.71	23.15	17.57	18.54	18.00	18.95	19.39
	6H	21.96	22.80	22.42	23.24	23.70	18.19	19.03	18.65	19.47	19.93
	8H	22.18	22.97	22.64	23.41	23.88	18.40	19.19	18.87	19.63	20.10
	12H	22.34	23.04	22.82	23.52	23.99	18.57	19.27	19.05	19.75	20.22
8H	4H	21.38	22.17	21.85	22.61	23.08	17.96	18.75	18.42	19.19	19.66
	6H	22.08	22.73	22.58	23.22	23.70	18.69	19.34	19.19	19.83	20.31
	8H	22.35	22.93	22.87	23.44	23.93	18.98	19.56	19.49	20.07	20.56
	12H	22.57	23.08	23.08	23.58	24.14	19.22	19.74	19.73	20.23	20.80
12H	4H	21.38	22.08	21.86	22.56	23.03	18.02	18.72	18.50	19.20	19.67
	6H	22.08	22.66	22.59	23.17	23.66	18.78	19.36	19.29	19.87	20.36
	8H	22.39	22.90	22.89	23.39	23.96	19.12	19.64	19.63	20.13	20.70