

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1056174

Luminaire Tested: S124R3DR-H575D835-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056174
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-H575D835-X4F0-XX-UDD-F-W
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

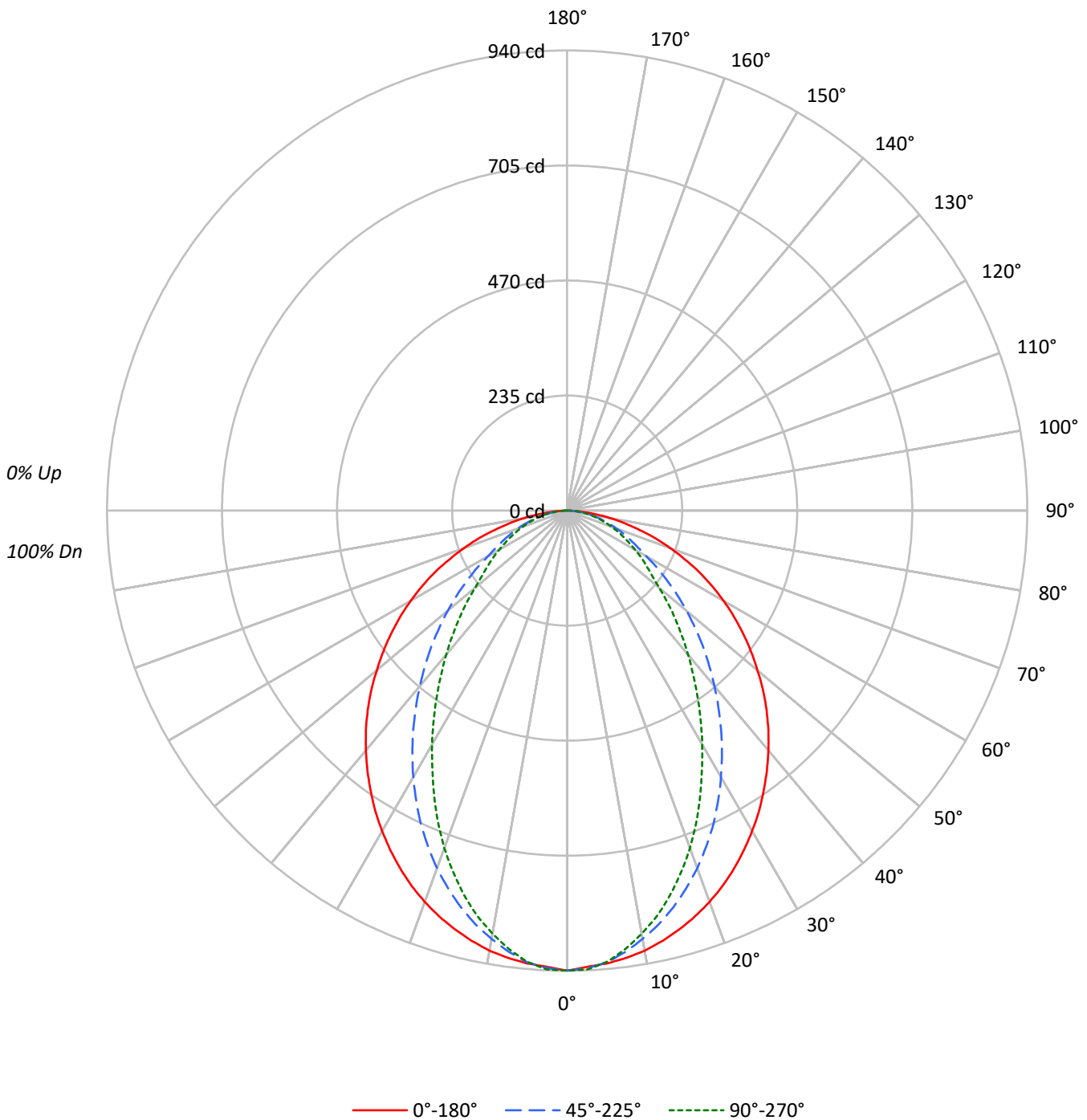
Lumens per Lamp: N/A
Luminaire Lumens: 1871.6 lumens
Efficiency: N/A
Efficacy: 108.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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°	8308	8308	8308
5°	8241	8223	8218
10°	8194	7977	7878
15°	8107	7677	7443
20°	8002	7313	6902
25°	7872	6894	6274
30°	7716	6416	5633
35°	7552	5918	5016
40°	7382	5403	4437
45°	7202	4903	3899
50°	6981	4375	3367
55°	6768	3847	3058
60°	6528	3301	2836
65°	6234	2994	2646
70°	5791	2771	2502
75°	5244	2552	2360
80°	4577	2357	2220
85°	3510	2171	2039

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7202 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.5	4.7
10°-20°	237.3	12.7
20°-30°	328.6	17.6
30°-40°	352.7	18.8
40°-50°	320.7	17.1
50°-60°	252.6	13.5
60°-70°	172.9	9.2
70°-80°	93.1	5.0
80°-90°	26.3	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°	653.4	34.9
0°-40°	1006.0	53.8
0°-60°	1579.3	84.4
0°-90°	1871.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1871.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	940	940	940	940	940	
5°	929	939	926	922	926	88
15°	886	876	839	816	813	250
25°	807	774	707	656	643	372
35°	700	645	548	482	465	438
45°	576	503	392	324	312	444
55°	439	355	250	201	198	393
65°	298	213	143	127	126	294
75°	154	93	75	68	69	164
85°	35	24	21	20	20	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	939.7	939.7	939.7	939.7	939.7
2.5°	932.8	943.8	935.5	936.9	938.3
5°	928.6	939.0	926.5	921.7	925.9
7.5°	921.7	928.6	909.3	900.3	904.4
10°	912.7	914.1	888.5	875.4	877.5
12.5°	900.3	896.8	865.7	847.0	848.4
15°	885.7	876.1	838.7	815.9	813.1
17.5°	869.2	853.3	809.0	780.0	774.4
20°	850.5	829.1	777.2	739.9	733.6
22.5°	829.7	802.1	742.6	698.4	689.4
25°	806.9	773.7	706.7	655.5	643.1
27.5°	782.0	743.3	667.9	611.9	596.0
30°	755.8	711.5	628.5	568.4	551.8
32.5°	728.8	679.0	588.4	524.8	507.5
35°	699.7	645.1	548.3	481.9	464.7
37.5°	670.0	609.9	507.5	440.5	422.5
40°	639.6	574.6	468.1	399.0	384.4
42.5°	608.5	538.6	429.4	360.2	347.1
45°	576.0	502.7	392.1	324.3	311.8
47.5°	542.8	466.0	354.0	290.4	278.7
50°	507.5	429.4	318.1	257.2	244.8
52.5°	473.6	392.1	283.5	224.7	218.5
55°	439.1	355.4	249.6	201.2	198.4
57.5°	404.5	318.8	218.5	182.5	179.8
60°	369.2	282.8	186.7	163.2	160.4
62.5°	334.0	247.5	163.2	144.5	143.1
65°	298.0	213.0	143.1	127.2	126.5
67.5°	260.0	179.8	125.2	112.0	111.3
70°	224.0	146.6	107.2	96.8	96.8
72.5°	190.1	116.2	90.6	82.3	82.3
75°	153.5	93.3	74.7	68.5	69.1
77.5°	121.0	73.3	60.2	56.0	56.0
80°	89.9	54.6	46.3	42.9	43.6
82.5°	60.8	38.0	33.2	31.1	31.1
85°	34.6	23.5	21.4	20.1	20.1
87.5°	12.4	11.1	10.4	9.0	9.7
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	18.50	20.02	18.86	20.34	20.65	14.27	15.80	14.64	16.11	16.43
	3H	20.27	21.64	20.65	21.97	22.33	15.89	17.26	16.26	17.58	17.94
	4H	20.94	22.23	21.34	22.58	22.96	16.52	17.80	16.92	18.15	18.53
	6H	21.45	22.64	21.87	23.01	23.40	17.02	18.20	17.43	18.57	18.96
	8H	21.62	22.75	22.04	23.14	23.54	17.19	18.32	17.61	18.71	19.11
	12H	21.72	22.80	22.15	23.18	23.61	17.31	18.39	17.74	18.78	19.20
4H	2H	18.59	19.88	18.99	20.23	20.61	14.99	16.28	15.39	16.63	17.01
	3H	20.54	21.61	20.95	22.01	22.41	16.80	17.87	17.21	18.27	18.67
	4H	21.29	22.26	21.73	22.67	23.11	17.54	18.50	17.97	18.92	19.36
	6H	21.93	22.77	22.39	23.21	23.67	18.15	18.99	18.61	19.44	19.90
	8H	22.15	22.93	22.61	23.38	23.84	18.37	19.16	18.83	19.60	20.07
	12H	22.30	23.00	22.78	23.48	23.95	18.54	19.24	19.02	19.72	20.19
8H	4H	21.35	22.14	21.81	22.58	23.05	17.93	18.71	18.39	19.16	19.62
	6H	22.05	22.70	22.55	23.19	23.67	18.66	19.31	19.16	19.80	20.28
	8H	22.32	22.90	22.83	23.41	23.90	18.95	19.53	19.46	20.04	20.53
	12H	22.53	23.05	23.04	23.54	24.11	19.19	19.71	19.70	20.20	20.76
12H	4H	21.34	22.04	21.82	22.52	22.99	17.98	18.68	18.46	19.16	19.63
	6H	22.04	22.63	22.56	23.14	23.62	18.74	19.32	19.25	19.83	20.32
	8H	22.35	22.87	22.86	23.36	23.92	19.09	19.61	19.60	20.10	20.66