

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: P1056202

Luminaire Tested: S124R3DR-H795D840-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1056202
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-8)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124R3DR-H795D840-X4F0-XX-UDD-FLL-B
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

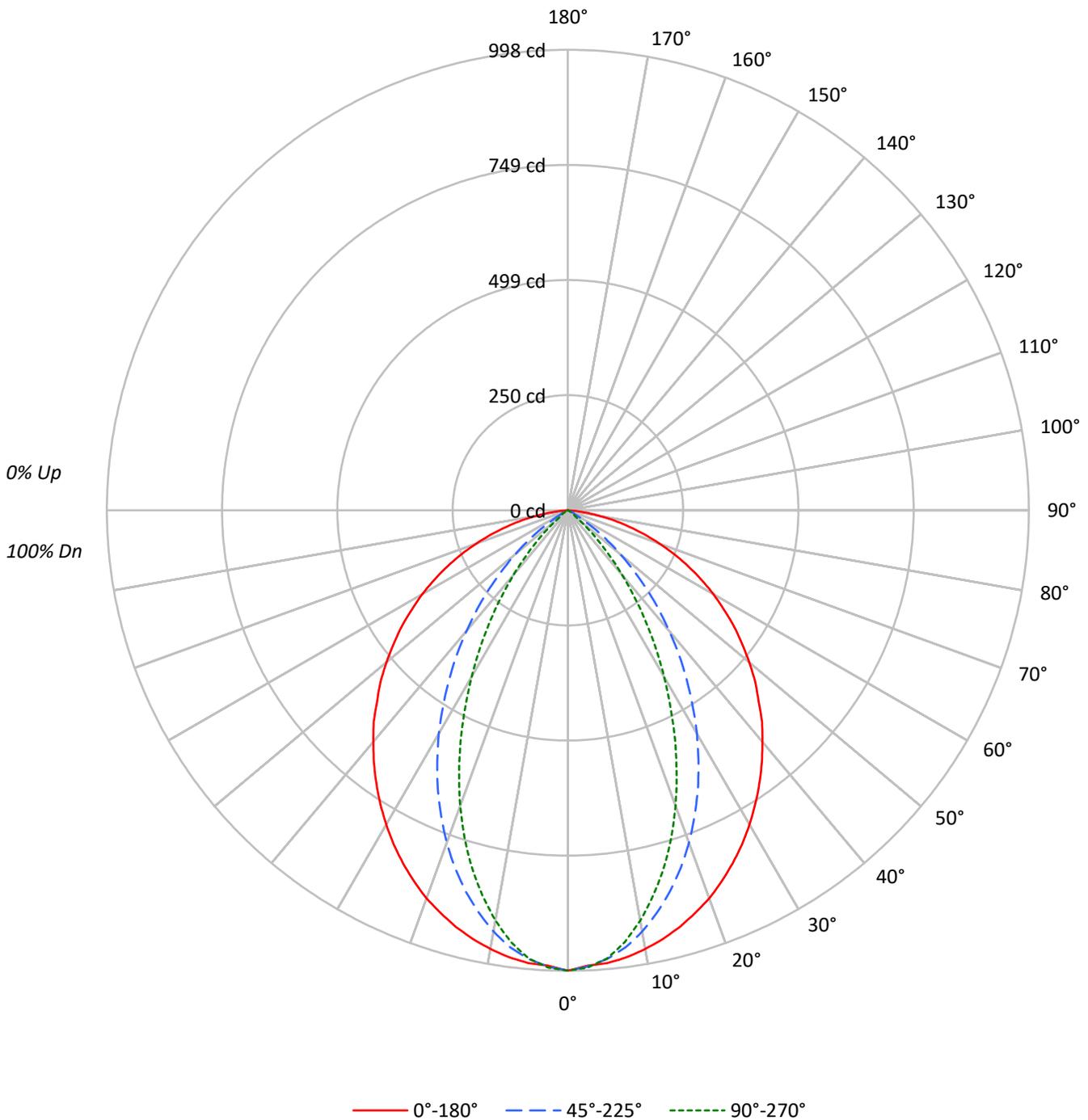
Lumens per Lamp: N/A
Luminaire Lumens: 1394.2 lumens
Efficiency: N/A
Efficacy: 58.6 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 0.81 / 0.97
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 23.8
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	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					100			
1	112	108	105	102	109	106	103	100	102	99	97	98	96	94	95	93	92	90					90			
2	104	98	93	88	102	96	91	87	93	89	85	90	86	83	87	84	82	80					80			
3	97	89	82	77	95	87	81	77	84	79	75	82	78	74	79	76	73	71					71			
4	90	81	74	68	88	80	73	68	77	72	67	75	70	66	73	69	65	64					64			
5	84	74	66	61	83	73	66	61	71	65	60	69	64	60	67	63	59	57					57			
6	79	68	60	55	77	67	60	55	65	59	54	64	58	54	62	57	54	52					52			
7	74	63	55	50	73	62	55	50	60	54	50	59	53	49	58	53	49	47					47			
8	70	58	51	46	68	57	50	46	56	50	45	55	49	45	54	49	45	43					43			
9	66	54	47	42	64	53	47	42	52	46	42	51	46	42	50	45	41	40					40			
10	62	50	43	39	61	50	43	39	49	43	39	48	42	39	47	42	38	37					37			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8819	8819	8819
5°	8740	8662	8653
10°	8665	8323	8103
15°	8557	7823	7340
20°	8419	7214	6413
25°	8233	6497	5352
30°	8027	5701	4253
35°	7800	4834	3167
40°	7562	3939	2111
45°	7300	3008	1162
50°	7048	2058	323
55°	6768	1116	211
60°	6433	347	120
65°	6015	226	61
70°	5436	101	26
75°	4677	34	0
80°	3534	0	0
85°	1491	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7300 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.0	6.6
10°-20°	241.6	17.3
20°-30°	312.2	22.4
30°-40°	298.4	21.4
40°-50°	223.1	16.0
50°-60°	132.8	9.5
60°-70°	67.4	4.8
70°-80°	23.5	1.7
80°-90°	3.2	0.2
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
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0°-30°	645.8	46.3
0°-40°	944.2	67.7
0°-60°	1300.1	93.3
0°-90°	1394.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1394.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	998	998	998	998	998	
5°	985	993	976	971	975	93
15°	935	915	855	815	802	263
25°	844	785	666	578	549	389
35°	723	623	448	334	293	452
45°	584	448	241	128	93	451
55°	439	273	72	17	14	392
65°	288	110	11	4	3	284
75°	137	15	1	1	0	145
85°	15	0	0	0	0	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	997.5	997.5	997.5	997.5	997.5
2.5°	987.7	999.4	989.7	990.6	991.6
5°	984.8	992.6	976.0	971.1	975.0
7.5°	976.9	979.9	955.4	942.7	943.7
10°	965.2	962.3	927.1	905.6	902.6
12.5°	951.5	941.7	892.8	861.6	854.7
15°	934.9	915.3	854.7	814.6	801.9
17.5°	915.3	887.0	812.7	759.8	744.2
20°	894.8	855.7	766.7	701.2	681.6
22.5°	870.4	820.5	716.8	639.6	615.1
25°	843.9	785.3	666.0	578.0	548.6
27.5°	816.6	747.1	612.2	515.4	481.1
30°	786.3	707.0	558.4	451.8	416.6
32.5°	755.0	666.0	502.7	393.1	354.0
35°	722.7	622.9	447.9	333.5	293.4
37.5°	689.4	579.9	395.1	276.8	235.7
40°	655.2	535.9	341.3	223.0	182.9
42.5°	622.0	491.9	290.4	172.1	135.0
45°	583.8	447.9	240.6	128.1	92.9
47.5°	549.6	404.9	192.7	87.0	54.8
50°	512.4	358.9	149.6	50.9	23.5
52.5°	475.3	315.9	109.5	22.5	17.6
55°	439.1	272.8	72.4	16.6	13.7
57.5°	400.9	229.8	39.1	12.7	9.8
60°	363.8	187.8	19.6	9.8	6.8
62.5°	325.6	147.7	15.6	5.9	3.9
65°	287.5	110.5	10.8	3.9	2.9
67.5°	249.4	75.3	6.8	2.0	1.0
70°	210.3	46.0	3.9	1.0	1.0
72.5°	173.1	23.5	2.0	1.0	1.0
75°	136.9	14.7	1.0	1.0	0.0
77.5°	101.7	7.8	1.0	1.0	0.0
80°	69.4	2.9	0.0	0.0	0.0
82.5°	40.1	1.0	0.0	0.0	0.0
85°	14.7	0.0	0.0	0.0	0.0
87.5°	0.0	0.0	0.0	0.0	0.0
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	18.02	19.35	18.38	19.66	19.97	0.00	0.00	0.00	0.00	0.00
	3H	19.56	20.74	19.94	21.07	21.43	0.00	0.00	0.00	0.00	0.00
	4H	20.15	21.25	20.56	21.60	21.98	0.00	0.00	0.00	0.00	0.00
	6H	20.57	21.58	20.99	21.95	22.34	0.00	0.00	0.00	0.00	0.00
	8H	20.67	21.62	21.10	22.01	22.42	0.00	0.00	0.00	0.00	0.00
	12H	20.69	21.60	21.12	21.98	22.41	0.00	0.00	0.00	0.00	0.00
4H	2H	17.80	18.89	18.20	19.24	19.63	0.00	0.00	0.00	0.00	0.00
	3H	19.36	20.25	19.77	20.66	21.06	0.00	0.00	0.00	0.00	0.00
	4H	19.94	20.74	20.38	21.16	21.60	0.00	0.00	0.00	0.00	0.00
	6H	20.40	21.09	20.87	21.54	22.00	0.00	0.00	0.00	0.00	0.00
	8H	20.52	21.16	20.99	21.61	22.08	0.00	0.00	0.00	0.00	0.00
	12H	20.56	21.13	21.05	21.61	22.09	0.00	0.00	0.00	0.00	0.00
8H	4H	19.81	20.45	20.28	20.90	21.37	0.00	0.00	0.00	0.41	0.88
	6H	20.25	20.77	20.75	21.27	21.75	0.00	0.00	0.00	0.25	0.73
	8H	20.36	20.83	20.89	21.35	21.84	0.00	0.00	0.00	0.16	0.65
	12H	20.41	20.83	20.93	21.32	21.89	0.00	0.00	0.00	0.04	0.61
12H	4H	19.76	20.33	20.25	20.81	21.28	0.00	0.30	0.22	0.78	1.26
	6H	20.19	20.65	20.71	21.17	21.66	0.00	0.09	0.15	0.61	1.10
	8H	20.32	20.73	20.84	21.23	21.80	0.00	0.00	0.10	0.49	1.06