

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: P1056198

Luminaire Tested: S124R3DR-H795D830-X4F0-XX-UDD-FLL-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1056198
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-H795D830-X4F0-XX-UDD-FLL-W
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

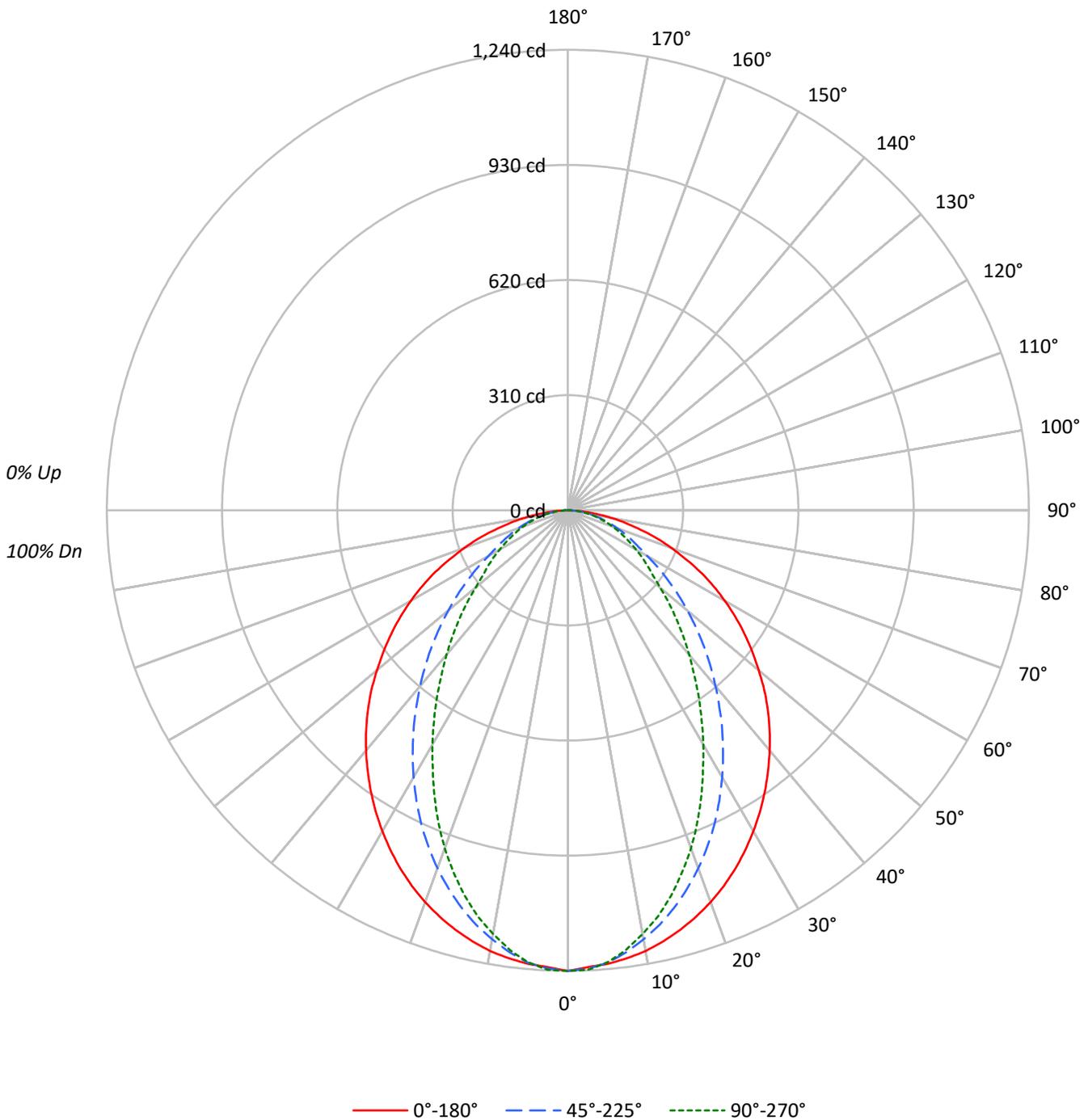
Lumens per Lamp: N/A
Luminaire Lumens: 2470.6 lumens
Efficiency: N/A
Efficacy: 103.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 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

TEST NUMBER: P1056198

CATALOG NUMBER: S124R3DR-H795D830-X4F0-XX-UDD-FLL-W

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°	10967	10967	10967
5°	10879	10855	10846
10°	10816	10530	10399
15°	10702	10134	9825
20°	10563	9652	9111
25°	10391	9100	8280
30°	10185	8471	7436
35°	9970	7812	6621
40°	9745	7132	5857
45°	9506	6471	5146
50°	9214	5776	4444
55°	8934	5079	4039
60°	8619	4357	3745
65°	8230	3952	3494
70°	7644	3658	3304
75°	6921	3368	3119
80°	6044	3116	2928
85°	4626	2871	2688

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9506 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.5	4.7
10°-20°	313.3	12.7
20°-30°	433.7	17.6
30°-40°	465.5	18.8
40°-50°	423.4	17.1
50°-60°	333.4	13.5
60°-70°	228.2	9.2
70°-80°	122.8	5.0
80°-90°	34.8	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°	862.5	34.9
0°-40°	1328.0	53.8
0°-60°	2084.8	84.4
0°-90°	2470.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2470.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1240	1240	1240	1240	1240	
5°	1226	1240	1223	1217	1222	116
15°	1169	1156	1107	1077	1073	330
25°	1065	1021	933	865	849	490
35°	924	852	724	636	613	578
45°	760	664	518	428	412	586
55°	580	469	330	266	262	518
65°	393	281	189	168	167	388
75°	203	123	99	90	91	216
85°	46	31	28	26	26	55
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1240.4	1240.4	1240.4	1240.4	1240.4
2.5°	1231.3	1245.9	1234.9	1236.8	1238.6
5°	1225.8	1239.5	1223.1	1216.7	1222.1
7.5°	1216.7	1225.8	1200.2	1188.4	1193.9
10°	1204.8	1206.6	1172.9	1155.5	1158.3
12.5°	1188.4	1183.8	1142.7	1118.1	1119.9
15°	1169.2	1156.4	1107.1	1077.0	1073.4
17.5°	1147.3	1126.3	1067.9	1029.6	1022.3
20°	1122.7	1094.4	1025.9	976.6	968.4
22.5°	1095.3	1058.8	980.3	921.9	910.0
25°	1065.2	1021.3	932.8	865.3	848.8
27.5°	1032.3	981.2	881.7	807.8	786.8
30°	997.6	939.2	829.7	750.3	728.4
32.5°	962.0	896.3	776.7	692.8	669.9
35°	923.7	851.6	723.8	636.2	613.4
37.5°	884.4	805.0	669.9	581.4	557.7
40°	844.3	758.5	617.9	526.6	507.5
42.5°	803.2	711.0	566.8	475.5	458.2
45°	760.3	663.6	517.5	428.1	411.6
47.5°	716.5	615.2	467.3	383.3	367.8
50°	669.9	566.8	419.9	339.5	323.1
52.5°	625.2	517.5	374.2	296.6	288.4
55°	579.6	469.1	329.5	265.6	262.0
57.5°	533.9	420.8	288.4	241.0	237.3
60°	487.4	373.3	246.4	215.4	211.8
62.5°	440.8	326.8	215.4	190.8	188.9
65°	393.4	281.1	188.9	167.9	167.0
67.5°	343.2	237.3	165.2	147.9	146.9
70°	295.7	193.5	141.5	127.8	127.8
72.5°	251.0	153.3	119.6	108.6	108.6
75°	202.6	123.2	98.6	90.4	91.3
77.5°	159.7	96.7	79.4	73.9	73.9
80°	118.7	72.1	61.2	56.6	57.5
82.5°	80.3	50.2	43.8	41.1	41.1
85°	45.6	31.0	28.3	26.5	26.5
87.5°	16.4	14.6	13.7	11.9	12.8
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	19.46	20.99	19.83	21.30	21.62	15.24	16.77	15.61	17.08	17.39
	3H	21.24	22.61	21.62	22.94	23.30	16.85	18.22	17.23	18.55	18.91
	4H	21.91	23.19	22.31	23.54	23.92	17.48	18.77	17.88	19.12	19.50
	6H	22.42	23.61	22.83	23.97	24.37	17.98	19.17	18.39	19.54	19.93
	8H	22.58	23.71	23.01	24.10	24.50	18.15	19.29	18.58	19.67	20.08
	12H	22.68	23.76	23.11	24.15	24.58	18.27	19.36	18.71	19.74	20.17
4H	2H	19.56	20.84	19.96	21.19	21.57	15.96	17.24	16.36	17.59	17.97
	3H	21.50	22.57	21.91	22.97	23.37	17.77	18.84	18.18	19.24	19.64
	4H	22.26	23.22	22.69	23.64	24.08	18.50	19.47	18.94	19.88	20.32
	6H	22.89	23.73	23.35	24.17	24.63	19.12	19.96	19.58	20.40	20.86
	8H	23.11	23.90	23.58	24.34	24.81	19.34	20.12	19.80	20.56	21.03
	12H	23.27	23.97	23.75	24.45	24.92	19.50	20.20	19.99	20.68	21.15
8H	4H	22.32	23.10	22.78	23.54	24.01	18.89	19.68	19.36	20.12	20.59
	6H	23.01	23.66	23.51	24.15	24.63	19.62	20.27	20.12	20.76	21.24
	8H	23.28	23.86	23.80	24.37	24.86	19.91	20.49	20.43	21.00	21.49
	12H	23.50	24.01	24.01	24.51	25.07	20.16	20.67	20.67	21.16	21.73
12H	4H	22.31	23.01	22.79	23.49	23.96	18.95	19.65	19.43	20.13	20.60
	6H	23.01	23.59	23.52	24.10	24.59	19.71	20.29	20.22	20.80	21.29
	8H	23.32	23.83	23.83	24.32	24.89	20.06	20.57	20.56	21.06	21.63