

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: P1056201

Luminaire Tested: S124R3DR-H795D835-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056201
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-H795D835-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

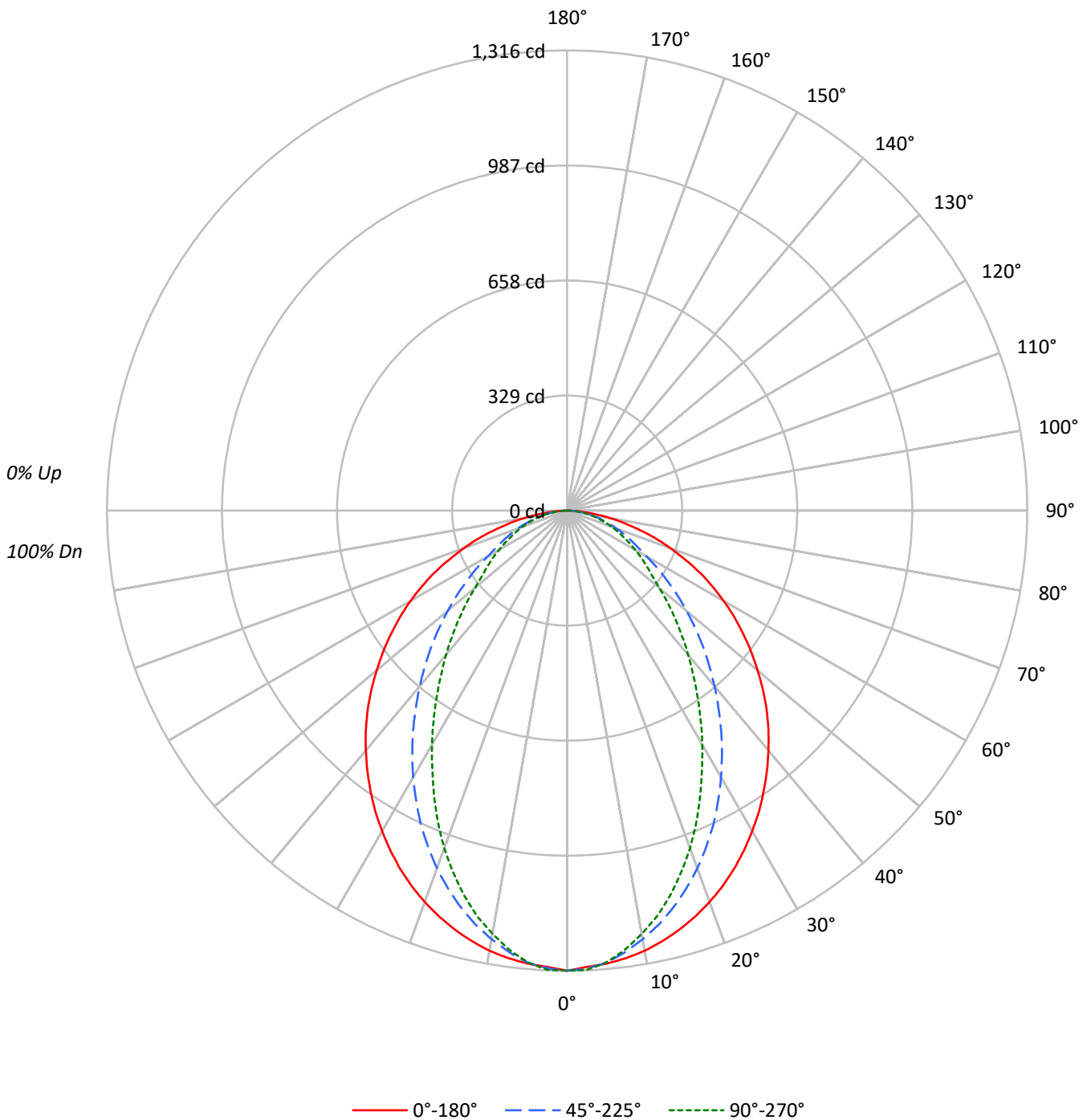
Lumens per Lamp: N/A
Luminaire Lumens: 2621.2 lumens
Efficiency: N/A
Efficacy: 110.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11635	11635	11635
5°	11542	11516	11508
10°	11476	11172	11033
15°	11355	10751	10424
20°	11207	10241	9667
25°	11025	9655	8786
30°	10805	8987	7890
35°	10577	8288	7023
40°	10338	7567	6214
45°	10087	6866	5460
50°	9777	6128	4715
55°	9478	5389	4284
60°	9144	4624	3973
65°	8732	4195	3707
70°	8112	3880	3505
75°	7344	3573	3307
80°	6410	3304	3106
85°	4910	3043	2851

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10087 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.5	4.7
10°-20°	332.4	12.7
20°-30°	460.2	17.6
30°-40°	493.9	18.8
40°-50°	449.2	17.1
50°-60°	353.7	13.5
60°-70°	242.1	9.2
70°-80°	130.3	5.0
80°-90°	36.9	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°	915.1	34.9
0°-40°	1409.0	53.8
0°-60°	2211.9	84.4
0°-90°	2621.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2621.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1316	1316	1316	1316	1316	
5°	1300	1315	1298	1291	1297	123
15°	1240	1227	1175	1143	1139	350
25°	1130	1084	990	918	901	520
35°	980	904	768	675	651	613
45°	807	704	549	454	437	622
55°	615	498	350	282	278	550
65°	417	298	200	178	177	412
75°	215	131	105	96	97	230
85°	48	33	30	28	28	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1316.0	1316.0	1316.0	1316.0	1316.0
2.5°	1306.3	1321.8	1310.2	1312.1	1314.1
5°	1300.5	1315.0	1297.6	1290.8	1296.7
7.5°	1290.8	1300.5	1273.4	1260.8	1266.6
10°	1278.3	1280.2	1244.4	1226.0	1228.9
12.5°	1260.8	1256.0	1212.4	1186.3	1188.2
15°	1240.5	1226.9	1174.6	1142.7	1138.8
17.5°	1217.2	1195.0	1133.0	1092.3	1084.6
20°	1191.1	1161.1	1088.5	1036.2	1027.4
22.5°	1162.0	1123.3	1040.0	978.1	965.5
25°	1130.1	1083.6	989.7	918.0	900.6
27.5°	1095.2	1041.0	935.4	857.0	834.7
30°	1058.4	996.5	880.3	796.0	772.8
32.5°	1020.7	950.9	824.1	735.0	710.8
35°	980.0	903.5	767.9	675.0	650.7
37.5°	938.4	854.1	710.8	616.9	591.7
40°	895.7	804.7	655.6	558.8	538.4
42.5°	852.2	754.4	601.4	504.5	486.1
45°	806.7	704.0	549.1	454.2	436.7
47.5°	760.2	652.7	495.8	406.7	390.3
50°	710.8	601.4	445.5	360.2	342.8
52.5°	663.3	549.1	397.0	314.7	306.0
55°	614.9	497.7	349.6	281.8	277.9
57.5°	566.5	446.4	306.0	255.7	251.8
60°	517.1	396.1	261.5	228.5	224.7
62.5°	467.7	346.7	228.5	202.4	200.5
65°	417.4	298.3	200.5	178.2	177.2
67.5°	364.1	251.8	175.3	156.9	155.9
70°	313.8	205.3	150.1	135.6	135.6
72.5°	266.3	162.7	126.9	115.2	115.2
75°	215.0	130.7	104.6	95.9	96.8
77.5°	169.5	102.6	84.2	78.4	78.4
80°	125.9	76.5	64.9	60.0	61.0
82.5°	85.2	53.3	46.5	43.6	43.6
85°	48.4	32.9	30.0	28.1	28.1
87.5°	17.4	15.5	14.5	12.6	13.6
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	19.67	21.19	20.03	21.51	21.82	15.45	16.97	15.81	17.28	17.60
	3H	21.44	22.81	21.82	23.14	23.50	17.06	18.43	17.44	18.76	19.12
	4H	22.11	23.40	22.51	23.75	24.13	17.69	18.97	18.09	19.32	19.70
	6H	22.62	23.81	23.04	24.18	24.57	18.19	19.38	18.60	19.74	20.13
	8H	22.79	23.92	23.21	24.31	24.71	18.36	19.49	18.78	19.88	20.28
	12H	22.89	23.97	23.32	24.35	24.78	18.48	19.56	18.91	19.95	20.38
4H	2H	19.76	21.05	20.16	21.40	21.78	16.16	17.45	16.56	17.80	18.18
	3H	21.71	22.78	22.12	23.18	23.58	17.97	19.04	18.38	19.44	19.84
	4H	22.46	23.43	22.90	23.84	24.28	18.71	19.67	19.14	20.09	20.53
	6H	23.10	23.94	23.56	24.38	24.84	19.32	20.16	19.78	20.61	21.07
	8H	23.32	24.10	23.78	24.55	25.01	19.54	20.33	20.00	20.77	21.24
	12H	23.47	24.17	23.95	24.65	25.12	19.71	20.41	20.19	20.89	21.36
8H	4H	22.52	23.31	22.98	23.75	24.22	19.10	19.88	19.56	20.33	20.79
	6H	23.22	23.87	23.72	24.36	24.84	19.83	20.48	20.32	20.97	21.45
	8H	23.49	24.07	24.00	24.58	25.07	20.12	20.70	20.63	21.21	21.70
	12H	23.71	24.22	24.21	24.71	25.28	20.36	20.88	20.87	21.37	21.93
12H	4H	22.51	23.21	22.99	23.69	24.16	19.15	19.85	19.63	20.33	20.80
	6H	23.21	23.80	23.73	24.31	24.79	19.91	20.49	20.42	21.00	21.49
	8H	23.52	24.04	24.03	24.53	25.09	20.26	20.78	20.77	21.27	21.83