

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: P1055706

Luminaire Tested: S123R3DR-H1000D940-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055706
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-4)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-H1000D940-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

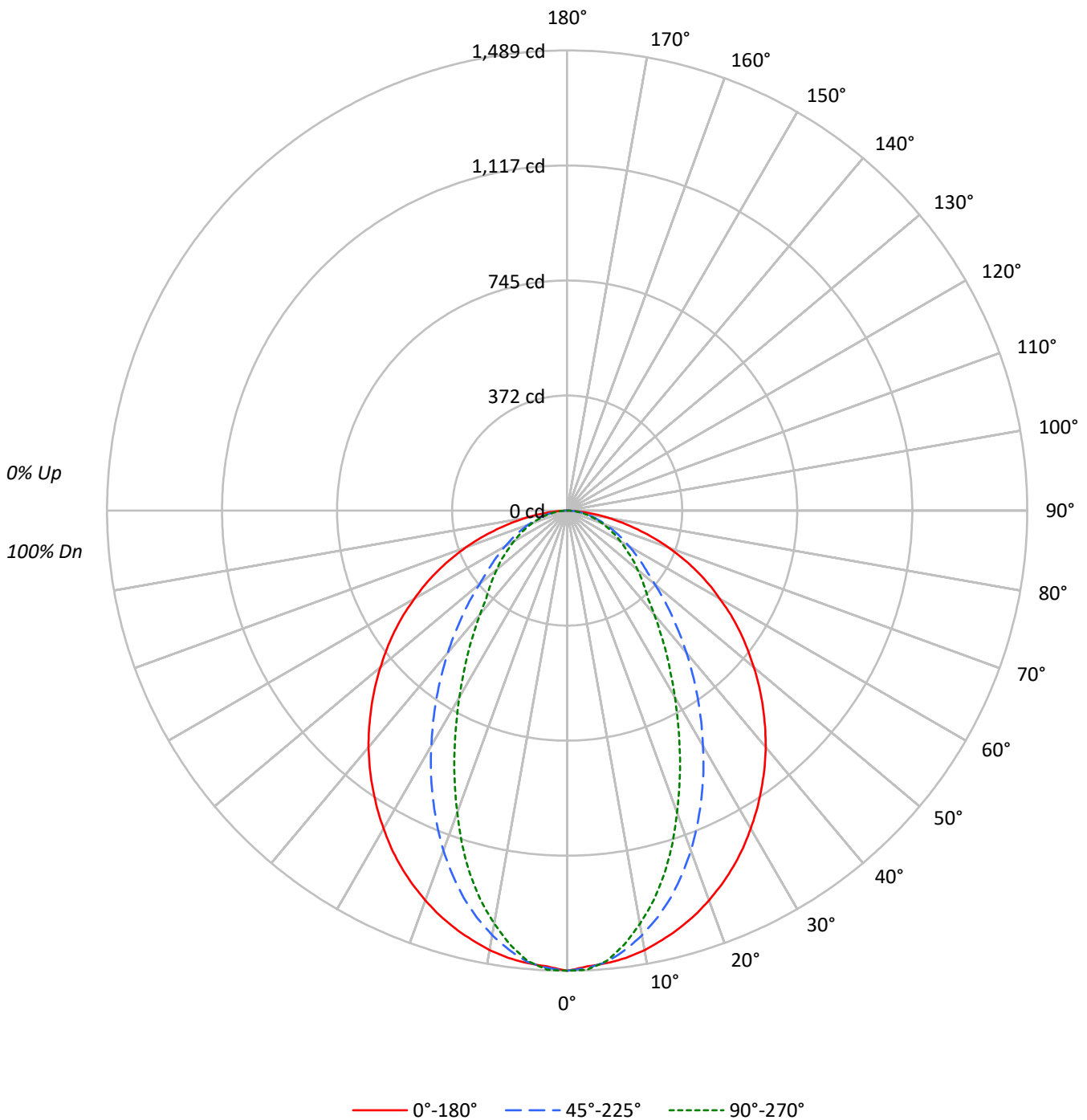
Lumens per Lamp: N/A
Luminaire Lumens: 2611.3 lumens
Efficiency: N/A
Efficacy: 84.5 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 30.9
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	106	102	99	107	104	100	97	99	97	94	96	93	91	92	90	88	86
2	101	94	88	83	99	92	87	82	89	84	80	85	82	78	83	79	76	74
3	93	84	77	71	91	82	76	70	80	74	69	77	72	68	74	70	67	65
4	86	75	68	61	84	74	67	61	72	65	60	70	64	59	67	63	59	57
5	80	68	60	54	78	67	60	54	65	58	53	63	57	53	62	56	52	50
6	75	62	54	48	73	61	54	48	60	53	48	58	52	47	57	51	47	45
7	70	57	49	43	68	56	49	43	55	48	43	53	47	43	52	47	42	40
8	65	53	45	39	64	52	44	39	51	44	39	49	43	39	48	43	39	37
9	61	49	41	36	60	48	41	36	47	40	36	46	40	35	45	39	35	34
10	58	45	38	33	56	45	38	33	44	37	33	43	37	33	42	37	33	31

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17951	17951	17951
5°	17791	17749	17710
10°	17682	17083	16619
15°	17472	16179	15179
20°	17217	15016	13345
25°	16917	13674	11480
30°	16542	12231	9705
35°	16144	10818	8195
40°	15739	9446	6887
45°	15265	8145	6077
50°	14788	6934	5576
55°	14348	6180	5150
60°	13749	5585	4806
65°	13183	5115	4510
70°	12288	4709	4241
75°	10998	4355	3992
80°	9436	4020	3715
85°	6626	3693	3541

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 15265 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	138.0	5.3
10°-20°	365.2	14.0
20°-30°	481.0	18.4
30°-40°	488.2	18.7
40°-50°	424.4	16.3
50°-60°	332.5	12.7
60°-70°	225.9	8.7
70°-80°	122.4	4.7
80°-90°	33.7	1.3
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°	984.2	37.7
0°-40°	1472.4	56.4
0°-60°	2229.3	85.4
0°-90°	2611.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2611.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1489	1489	1489	1489	1489	
5°	1470	1488	1467	1453	1463	140
15°	1400	1380	1296	1233	1216	395
25°	1272	1195	1028	900	863	585
35°	1097	967	735	595	557	686
45°	895	718	478	369	356	691
55°	683	474	294	251	245	609
65°	462	256	179	160	158	456
75°	236	118	94	87	86	252
85°	48	29	27	24	26	60
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1488.9	1488.9	1488.9	1488.9	1488.9
2.5°	1476.6	1495.6	1481.1	1482.2	1486.7
5°	1470.0	1487.8	1466.6	1453.3	1463.3
7.5°	1459.9	1473.3	1434.3	1413.2	1416.5
10°	1444.3	1448.8	1395.4	1361.9	1357.5
12.5°	1423.2	1415.4	1348.6	1299.6	1291.8
15°	1399.8	1379.8	1296.2	1232.8	1216.1
17.5°	1373.1	1339.7	1235.0	1157.0	1131.4
20°	1341.9	1295.1	1170.4	1071.3	1040.1
22.5°	1308.5	1248.4	1100.2	983.3	951.0
25°	1271.7	1194.9	1027.9	899.8	863.0
27.5°	1231.7	1141.4	954.4	817.4	776.2
30°	1188.2	1085.8	878.6	737.2	697.1
32.5°	1143.7	1026.7	806.3	662.6	623.6
35°	1096.9	966.6	735.0	594.7	556.8
37.5°	1049.0	905.4	665.9	530.1	494.4
40°	1000.0	843.0	600.2	469.9	437.6
42.5°	947.7	780.6	536.8	413.1	388.6
45°	895.3	718.3	477.7	368.6	356.4
47.5°	843.0	654.8	422.1	337.4	326.3
50°	788.4	593.6	369.7	308.5	297.3
52.5°	735.0	533.4	326.3	280.6	272.8
55°	682.6	474.4	294.0	250.6	245.0
57.5°	628.1	416.5	261.7	227.2	220.5
60°	570.2	360.8	231.6	202.7	199.3
62.5°	517.8	308.5	204.9	181.5	178.2
65°	462.1	256.1	179.3	160.4	158.1
67.5°	405.4	212.7	155.9	140.3	139.2
70°	348.6	179.3	133.6	121.4	120.3
72.5°	292.9	148.1	112.5	104.7	102.5
75°	236.1	118.0	93.5	86.9	85.7
77.5°	184.9	91.3	74.6	70.2	69.0
80°	135.9	67.9	57.9	54.6	53.5
82.5°	89.1	46.8	41.2	39.0	39.0
85°	47.9	29.0	26.7	24.5	25.6
87.5°	16.7	12.2	12.2	11.1	12.2
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	20.59	22.08	20.96	22.40	22.71	15.74	17.23	16.11	17.55	17.86
	3H	22.48	23.82	22.86	24.14	24.51	17.37	18.71	17.75	19.03	19.40
	4H	23.23	24.49	23.63	24.84	25.22	18.00	19.26	18.40	19.61	19.99
	6H	23.80	24.96	24.21	25.33	25.72	18.49	19.65	18.91	20.02	20.41
	8H	23.97	25.08	24.40	25.47	25.87	18.66	19.77	19.09	20.16	20.56
	12H	24.07	25.13	24.50	25.51	25.94	18.79	19.85	19.22	20.23	20.66
4H	2H	20.64	21.89	21.04	22.24	22.62	16.47	17.72	16.87	18.07	18.45
	3H	22.65	23.70	23.07	24.10	24.50	18.29	19.33	18.70	19.73	20.13
	4H	23.47	24.41	23.90	24.83	25.27	19.04	19.98	19.47	20.39	20.83
	6H	24.15	24.97	24.61	25.41	25.88	19.65	20.46	20.10	20.91	21.37
	8H	24.38	25.15	24.85	25.59	26.06	19.86	20.62	20.32	21.07	21.54
	12H	24.54	25.22	25.02	25.70	26.17	20.03	20.71	20.51	21.19	21.66
8H	4H	23.50	24.26	23.96	24.70	25.17	19.42	20.18	19.88	20.63	21.09
	6H	24.22	24.86	24.72	25.35	25.83	20.15	20.78	20.65	21.27	21.75
	8H	24.49	25.06	25.01	25.57	26.06	20.44	21.00	20.95	21.51	22.00
	12H	24.70	25.20	25.21	25.70	26.26	20.68	21.18	21.19	21.67	22.24
12H	4H	23.48	24.16	23.96	24.64	25.11	19.47	20.16	19.96	20.63	21.11
	6H	24.21	24.78	24.72	25.29	25.77	20.23	20.80	20.74	21.31	21.80
	8H	24.51	25.01	25.02	25.51	26.07	20.58	21.08	21.09	21.57	22.14