

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: P1055724

Luminaire Tested: S123R3DR-H1165D927-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055724
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-H1165D927-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

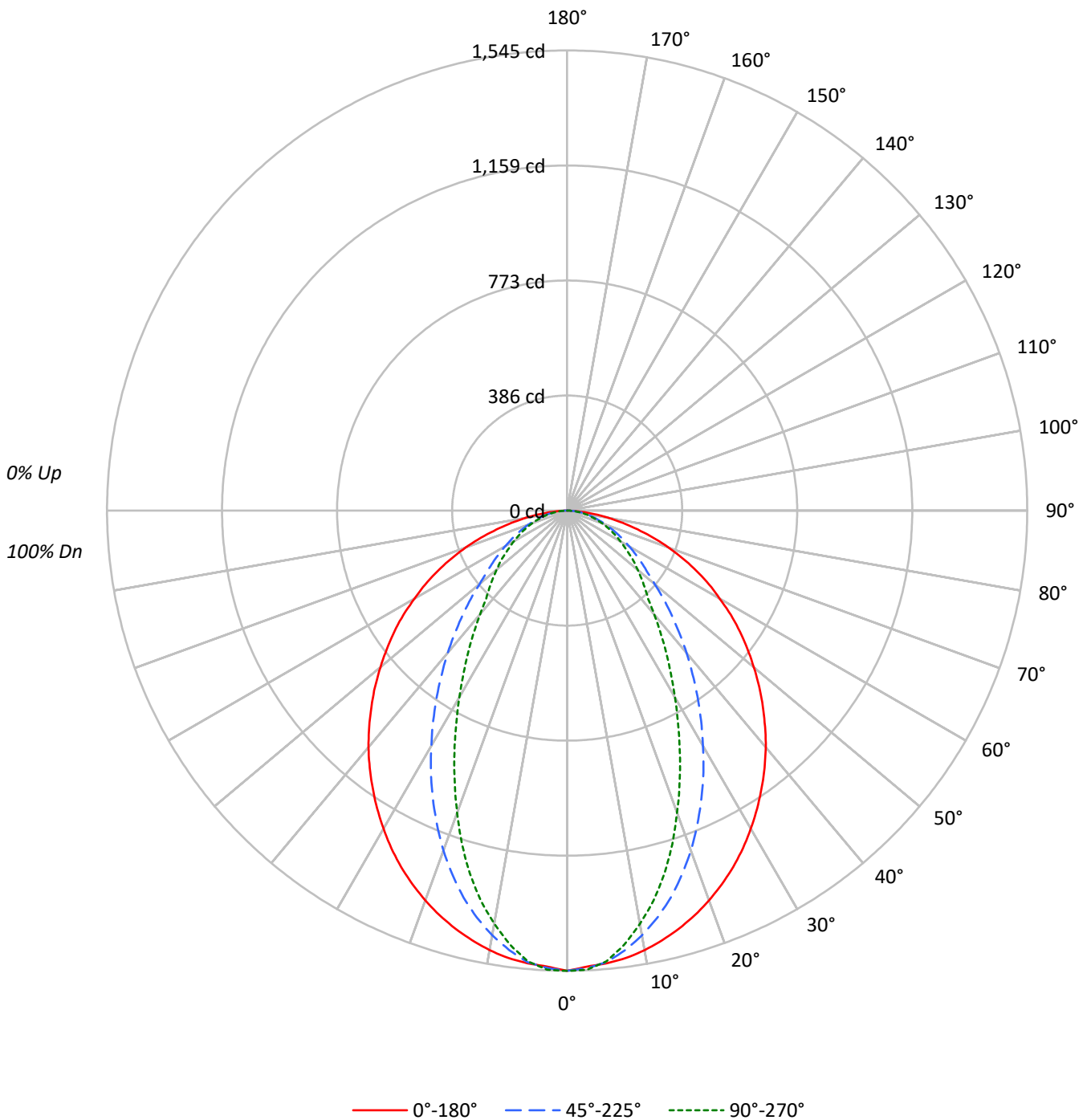
Lumens per Lamp: N/A
Luminaire Lumens: 2709.9 lumens
Efficiency: N/A
Efficacy: 74.0 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 36.6
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°	18630	18630	18630
5°	18462	18421	18379
10°	18350	17728	17247
15°	18132	16790	15752
20°	17867	15584	13849
25°	17557	14190	11915
30°	17167	12694	10072
35°	16755	11227	8504
40°	16333	9804	7148
45°	15843	8454	6305
50°	15347	7197	5788
55°	14890	6413	5345
60°	14268	5797	4989
65°	13682	5309	4681
70°	12750	4889	4399
75°	11413	4523	4146
80°	9790	4173	3853
85°	6875	3832	3680

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 15843 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	143.2	5.3
10°-20°	379.0	14.0
20°-30°	499.2	18.4
30°-40°	506.7	18.7
40°-50°	440.4	16.3
50°-60°	345.1	12.7
60°-70°	234.4	8.7
70°-80°	127.0	4.7
80°-90°	35.0	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°	1021.4	37.7
0°-40°	1528.1	56.4
0°-60°	2313.5	85.4
0°-90°	2709.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2709.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1545	1545	1545	1545	1545	
5°	1526	1544	1522	1508	1519	145
15°	1453	1432	1345	1279	1262	410
25°	1320	1240	1067	934	896	608
35°	1138	1003	763	617	578	712
45°	929	745	496	382	370	717
55°	708	492	305	260	254	632
65°	480	266	186	166	164	474
75°	245	122	97	90	89	262
85°	50	30	28	25	27	63
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1545.2	1545.2	1545.2	1545.2	1545.2
2.5°	1532.5	1552.1	1537.1	1538.2	1542.9
5°	1525.5	1544.0	1522.1	1508.2	1518.6
7.5°	1515.1	1529.0	1488.5	1466.6	1470.0
10°	1498.9	1503.6	1448.1	1413.4	1408.8
12.5°	1477.0	1468.9	1399.6	1348.7	1340.6
15°	1452.7	1431.9	1345.2	1279.4	1262.0
17.5°	1425.0	1390.3	1281.7	1200.8	1174.2
20°	1392.6	1344.1	1214.6	1111.8	1079.4
22.5°	1357.9	1295.5	1141.8	1020.5	987.0
25°	1319.8	1240.1	1066.7	933.8	895.7
27.5°	1278.2	1184.6	990.4	848.3	805.5
30°	1233.1	1126.8	911.8	765.1	723.5
32.5°	1186.9	1065.6	836.7	687.6	647.2
35°	1138.4	1003.1	762.8	617.1	577.8
37.5°	1088.7	939.6	691.1	550.1	513.1
40°	1037.8	874.9	622.9	487.7	454.2
42.5°	983.5	810.1	557.0	428.8	403.3
45°	929.2	745.4	495.8	382.5	369.8
47.5°	874.9	679.6	438.0	350.2	338.6
50°	818.2	616.0	383.7	320.1	308.6
52.5°	762.8	553.6	338.6	291.2	283.1
55°	708.4	492.3	305.1	260.0	254.3
57.5°	651.8	432.2	271.6	235.8	228.8
60°	591.7	374.4	240.4	210.3	206.9
62.5°	537.4	320.1	212.6	188.4	184.9
65°	479.6	265.8	186.1	166.4	164.1
67.5°	420.7	220.7	161.8	145.6	144.5
70°	361.7	186.1	138.7	126.0	124.8
72.5°	303.9	153.7	116.7	108.6	106.3
75°	245.0	122.5	97.1	90.1	89.0
77.5°	191.8	94.8	77.4	72.8	71.7
80°	141.0	70.5	60.1	56.6	55.5
82.5°	92.5	48.5	42.8	40.4	40.4
85°	49.7	30.0	27.7	25.4	26.6
87.5°	17.3	12.7	12.7	11.6	12.7
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	20.72	22.21	21.08	22.52	22.84	15.87	17.36	16.23	17.68	17.99
	3H	22.61	23.94	22.98	24.27	24.64	17.50	18.84	17.87	19.16	19.53
	4H	23.36	24.62	23.76	24.97	25.35	18.13	19.39	18.53	19.74	20.12
	6H	23.93	25.09	24.34	25.45	25.85	18.62	19.78	19.04	20.15	20.54
	8H	24.10	25.20	24.53	25.59	26.00	18.79	19.90	19.22	20.29	20.69
	12H	24.20	25.25	24.63	25.64	26.07	18.92	19.97	19.35	20.36	20.79
4H	2H	20.77	22.02	21.17	22.37	22.75	16.60	17.85	17.00	18.20	18.58
	3H	22.78	23.83	23.19	24.23	24.63	18.42	19.46	18.83	19.86	20.26
	4H	23.60	24.54	24.03	24.96	25.39	19.16	20.10	19.60	20.52	20.96
	6H	24.28	25.10	24.74	25.54	26.00	19.77	20.59	20.23	21.03	21.49
	8H	24.51	25.28	24.98	25.72	26.19	19.99	20.75	20.45	21.20	21.66
	12H	24.67	25.35	25.15	25.83	26.30	20.16	20.84	20.64	21.32	21.79
8H	4H	23.62	24.39	24.09	24.83	25.30	19.55	20.31	20.01	20.76	21.22
	6H	24.35	24.98	24.85	25.48	25.95	20.28	20.91	20.77	21.40	21.88
	8H	24.62	25.19	25.14	25.70	26.19	20.56	21.13	21.08	21.64	22.13
	12H	24.83	25.33	25.34	25.82	26.39	20.81	21.31	21.32	21.80	22.37
12H	4H	23.61	24.29	24.09	24.77	25.24	19.60	20.28	20.08	20.76	21.23
	6H	24.34	24.90	24.85	25.41	25.90	20.36	20.92	20.87	21.44	21.92
	8H	24.64	25.14	25.15	25.64	26.20	20.71	21.20	21.22	21.70	22.26