

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: P1055797

Luminaire Tested: S123R3DR-H775D840-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055797
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-H775D840-X4F0-XX-UDD-F-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

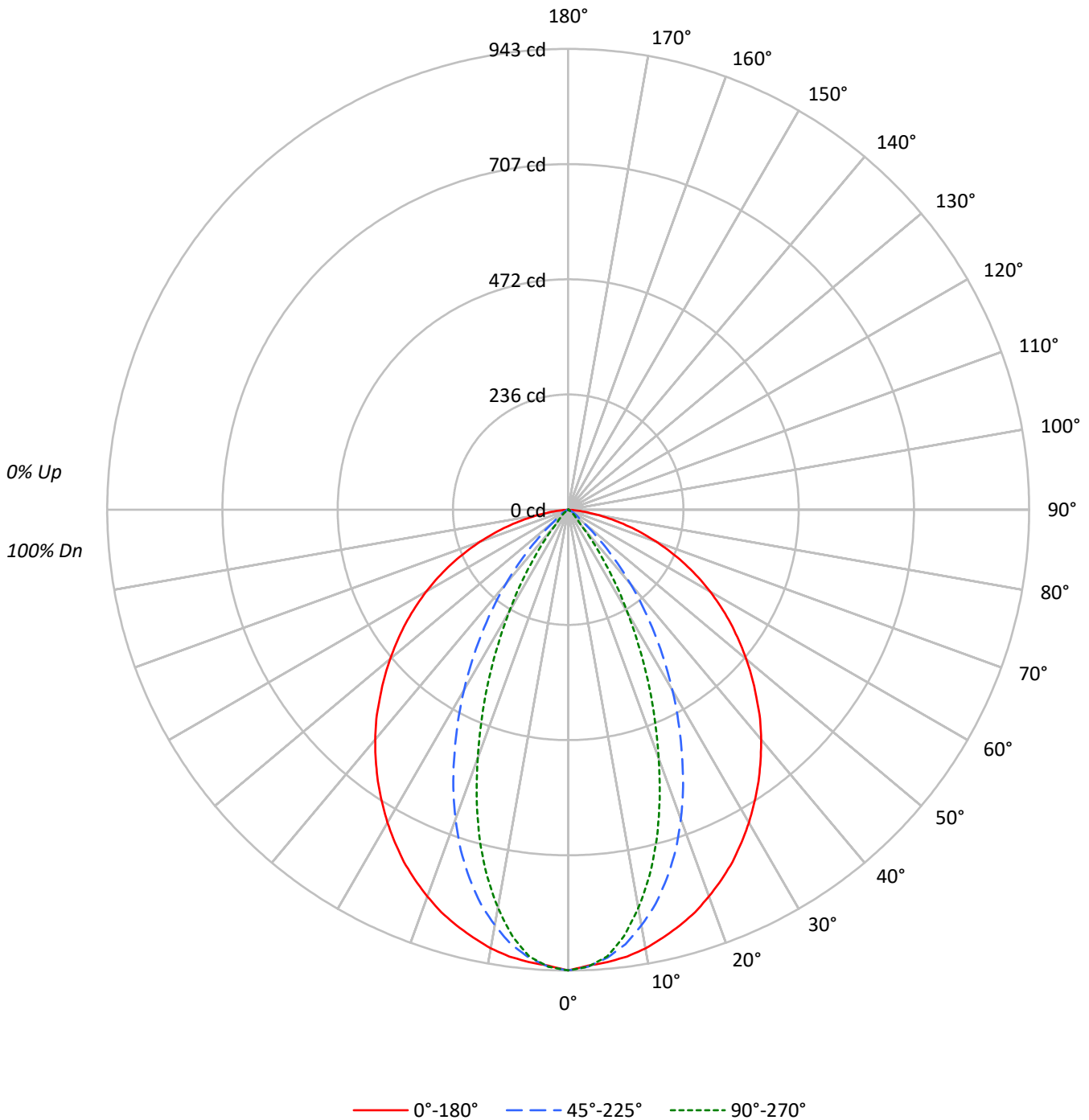
Lumens per Lamp: N/A
Luminaire Lumens: 1103.4 lumens
Efficiency: N/A
Efficacy: 46.4 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	112	108	105	103	109	106	104	101	102	100	98	98	97	95	95	93	92	90
2	105	99	94	89	102	97	92	88	93	90	86	90	87	84	87	85	83	81
3	98	90	84	79	96	88	83	78	86	81	77	83	79	76	81	77	74	73
4	92	82	75	70	90	81	75	70	79	73	69	77	72	68	75	71	67	65
5	86	76	69	63	84	75	68	63	73	67	62	71	66	62	69	65	61	59
6	81	70	63	57	79	69	62	57	67	61	57	66	61	56	64	60	56	54
7	76	65	58	53	74	64	57	52	63	57	52	61	56	52	60	55	52	50
8	71	60	53	48	70	60	53	48	58	52	48	57	52	48	56	51	48	46
9	68	56	49	45	66	56	49	45	55	49	45	54	48	44	53	48	44	43
10	64	53	46	42	63	52	46	42	51	46	41	51	45	41	50	45	41	40

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11366	11366	11366
5°	11243	11137	11102
10°	11158	10571	10128
15°	10998	9741	8727
20°	10803	8645	6951
25°	10577	7325	5126
30°	10292	5936	3362
35°	9989	4520	1843
40°	9665	3124	631
45°	9287	1818	367
50°	8915	715	219
55°	8530	452	103
60°	8087	282	48
65°	7531	140	29
70°	6758	71	35
75°	5739	47	47
80°	4277	69	0
85°	1618	0	0

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9287 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.4	7.8
10°-20°	219.3	19.9
20°-30°	261.6	23.7
30°-40°	221.9	20.1
40°-50°	150.8	13.7
50°-60°	93.5	8.5
60°-70°	47.4	4.3
70°-80°	19.3	1.8
80°-90°	3.0	0.3
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°	567.4	51.4
0°-40°	789.4	71.5
0°-60°	1033.7	93.7
0°-90°	1103.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1103.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	943	943	943	943	943	
5°	929	938	920	913	917	88
15°	881	859	780	719	699	248
25°	795	721	551	425	385	366
35°	679	545	307	165	125	424
45°	545	357	107	26	22	421
55°	406	180	22	8	5	363
65°	264	44	5	1	1	261
75°	123	8	1	1	1	131
85°	12	0	0	1	0	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	942.7	942.7	942.7	942.7	942.7
2.5°	933.9	946.6	935.9	934.9	935.9
5°	929.0	937.8	920.2	913.4	917.3
7.5°	922.2	926.1	896.8	879.2	879.2
10°	911.4	908.5	863.5	834.2	827.3
12.5°	896.8	885.0	826.3	780.4	767.7
15°	881.1	858.6	780.4	718.8	699.2
17.5°	863.5	829.3	730.5	650.3	622.0
20°	842.0	796.0	673.8	576.0	541.8
22.5°	819.5	759.8	614.1	499.7	461.6
25°	795.1	720.7	550.6	425.4	385.3
27.5°	767.7	679.7	488.0	354.0	310.0
30°	739.3	636.6	426.4	285.6	241.5
32.5°	709.0	591.6	364.8	223.0	181.9
35°	678.7	544.7	307.1	165.3	125.2
37.5°	646.4	497.8	251.3	114.4	79.2
40°	614.1	451.8	198.5	72.4	40.1
42.5°	580.9	403.9	150.6	36.2	27.4
45°	544.7	356.9	106.6	26.4	21.5
47.5°	510.5	312.0	70.4	21.5	16.6
50°	475.3	267.0	38.1	15.6	11.7
52.5°	440.1	223.9	27.4	11.7	7.8
55°	405.8	179.9	21.5	7.8	4.9
57.5°	370.6	141.8	16.6	4.9	2.9
60°	335.4	104.6	11.7	2.9	2.0
62.5°	300.2	72.4	7.8	2.0	1.0
65°	264.0	44.0	4.9	1.0	1.0
67.5°	226.9	30.3	2.9	1.0	1.0
70°	191.7	21.5	2.0	1.0	1.0
72.5°	156.5	13.7	1.0	1.0	0.0
75°	123.2	7.8	1.0	1.0	1.0
77.5°	90.9	2.9	1.0	1.0	0.0
80°	61.6	1.0	1.0	1.0	0.0
82.5°	34.2	0.0	1.0	1.0	0.0
85°	11.7	0.0	0.0	1.0	0.0
87.5°	0.0	0.0	0.0	1.0	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	17.49	18.77	17.86	19.09	19.40	0.00	0.00	0.00	0.00	0.00
	3H	19.44	20.57	19.82	20.90	21.27	0.00	0.00	0.00	0.00	0.00
	4H	20.26	21.32	20.67	21.67	22.06	0.00	0.00	0.00	0.00	0.00
	6H	20.82	21.79	21.23	22.16	22.55	0.00	0.00	0.00	0.00	0.00
	8H	20.94	21.86	21.37	22.25	22.66	0.00	0.00	0.00	0.00	0.00
	12H	20.97	21.84	21.40	22.23	22.66	0.00	0.00	0.00	0.00	0.00
4H	2H	17.26	18.31	17.66	18.66	19.05	0.00	0.00	0.00	0.00	0.00
	3H	19.21	20.07	19.62	20.48	20.88	0.00	0.00	0.00	0.00	0.00
	4H	20.02	20.79	20.46	21.21	21.66	0.00	0.00	0.00	0.00	0.00
	6H	20.62	21.29	21.09	21.73	22.20	0.00	0.00	0.00	0.00	0.00
	8H	20.78	21.39	21.25	21.84	22.31	0.00	0.00	0.00	0.00	0.00
	12H	20.82	21.37	21.31	21.85	22.32	0.00	0.00	0.00	0.00	0.00
8H	4H	19.88	20.50	20.35	20.95	21.42	0.00	0.00	0.00	0.00	0.00
	6H	20.46	20.96	20.97	21.46	21.94	0.00	0.00	0.00	0.00	0.00
	8H	20.61	21.06	21.13	21.58	22.07	0.00	0.00	0.00	0.00	0.00
	12H	20.67	21.06	21.18	21.56	22.13	0.00	0.00	0.00	0.00	0.00
12H	4H	19.83	20.38	20.32	20.86	21.33	0.00	0.00	0.00	0.00	0.00
	6H	20.40	20.85	20.92	21.36	21.86	0.00	0.00	0.00	0.00	0.00
	8H	20.57	20.96	21.08	21.46	22.03	0.00	0.00	0.00	0.00	0.00