

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: P735867

Luminaire Tested: S122DRP-S290D930-X4F0-XX-UDD-W-W

Issue Date: 1/24/2024

Test Information

Test Method: LM-79-2024
Report Number: P735867
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2308-143-1)
Test Lab: INNOVATION CENTER
Issue Date: 1/24/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122DRP-S290D930-X4F0-XX-UDD-W-W
Description: DEFINE 2 DIRECT RECESSED WITH WALL WASH OPTIC
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

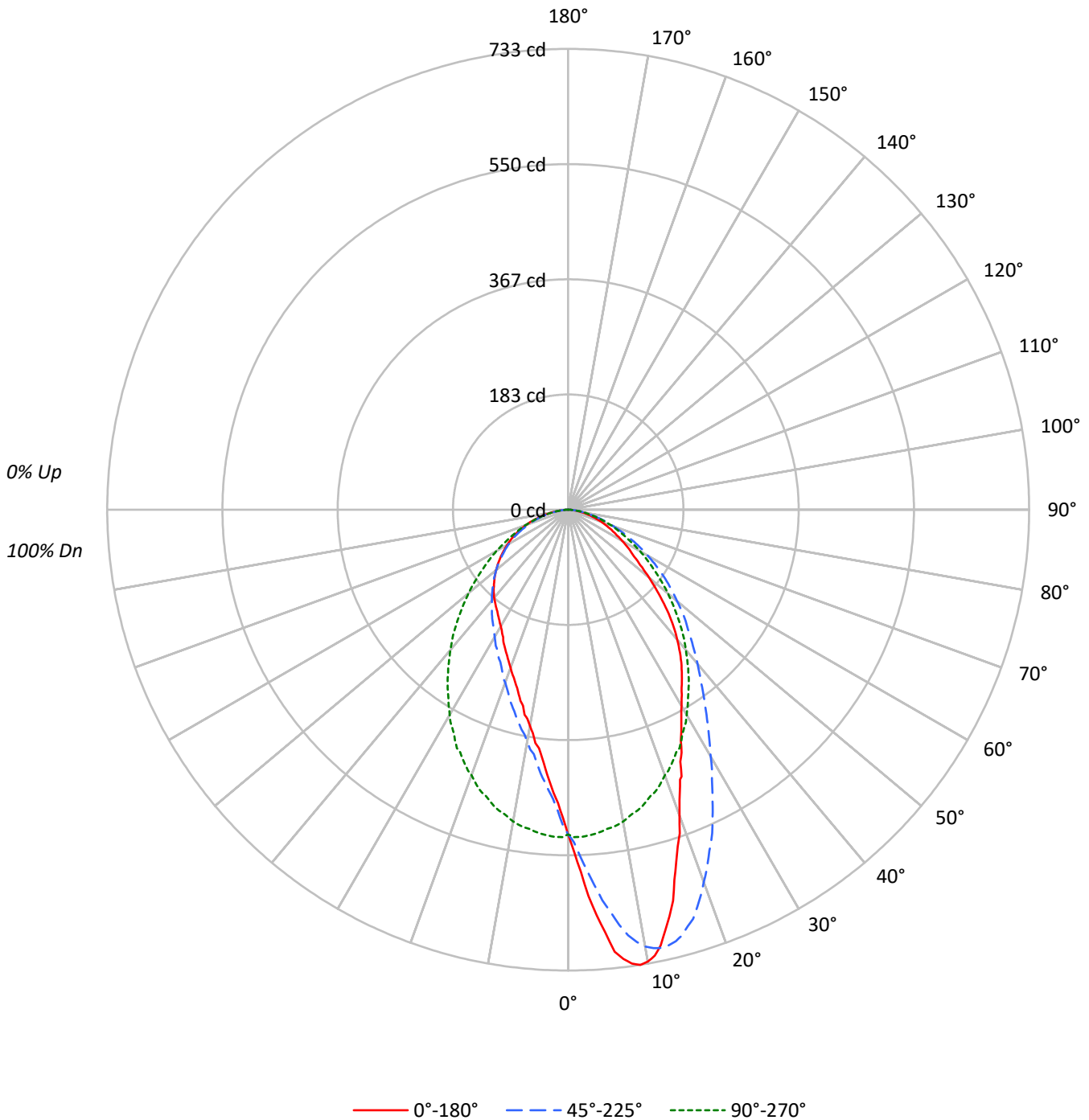
Lumens per Lamp: N/A
Luminaire Lumens: 1050.5 lumens
Efficiency: N/A
Efficacy: 84.0 lumens/watt
Spacing Criteria (0/90/45): 0.9 / 1.11 / 1.12
Luminous Opening: Rectangular (W 4' x L: 0.14' x H: 0')
CIE Type: Direct

Input Watts (W): 12.5
Input Voltage (V): 120
Input Current (A_{in}): 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			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	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86
2	101	94	87	82	98	92	86	81	88	83	79	85	81	78	82	79	76	74
3	93	83	76	70	91	82	75	69	79	73	68	76	71	67	74	69	66	64
4	86	75	67	60	83	73	66	60	71	64	59	69	63	58	67	62	58	56
5	79	67	59	53	77	66	58	53	64	57	52	62	56	52	61	55	51	49
6	74	61	53	47	72	60	52	47	59	52	46	57	51	46	55	50	46	44
7	69	56	48	42	67	55	47	42	54	47	42	52	46	41	51	45	41	39
8	64	51	43	38	63	51	43	38	50	43	38	48	42	37	47	41	37	35
9	60	48	40	35	59	47	40	34	46	39	34	45	39	34	44	38	34	32
10	57	44	37	32	55	44	36	32	43	36	31	42	36	31	41	35	31	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°	135°	180°
0°	9924	9924	9924	9924	9924
5°	13016	12030	9975	8366	7984
10°	14246	13770	9827	7313	6816
15°	12817	13945	9562	6603	6045
20°	10575	12899	9197	5989	5480
25°	9039	11508	8874	5540	5079
30°	7995	10050	8365	5191	4756
35°	7394	8900	7844	4946	4620
40°	6767	8032	7302	4737	4594
45°	5961	7331	6752	4591	4534
50°	5018	6758	6187	4468	4479
55°	4222	6220	5590	4316	4400
60°	3806	5620	5074	4186	4309
65°	3452	4939	4521	3989	4230
70°	3113	4266	4069	3687	4007
75°	2718	3609	3476	3349	3661
80°	2280	2823	2823	2911	3066
85°	1720	2029	2117	2272	2183

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 10764 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.8	4.8
10°-20°	139.5	13.3
20°-30°	182.9	17.4
30°-40°	193.3	18.4
40°-50°	179.5	17.1
50°-60°	143.6	13.7
60°-70°	98.2	9.4
70°-80°	50.7	4.8
80°-90°	12.0	1.1
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°	373.2	35.5
0°-40°	566.5	53.9
0°-60°	889.6	84.7
0°-90°	1050.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1050.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	516	516	516	516	516	
5°	675	624	517	434	414	66
15°	644	701	480	332	304	177
25°	426	543	418	261	240	196
35°	315	379	334	211	197	197
45°	219	270	248	169	167	168
55°	126	186	167	129	131	115
65°	76	109	99	88	93	75
75°	37	49	47	45	49	39
85°	8	9	10	10	10	9
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	516.3	516.3	516.3	516.3	516.3	516.3	516.3	516.3	516.3
1°	544.7	541.9	529.4	530.2	520.9	510.6	501.1	495.0	490.1
2°	576.6	571.0	551.5	541.9	520.9	498.9	479.1	473.7	467.0
3°	615.3	601.8	574.9	552.2	520.2	488.3	461.0	451.4	450.3
4°	646.6	634.5	598.6	562.8	518.4	478.0	447.1	436.8	431.9
5°	674.6	666.8	623.5	576.3	517.0	468.1	433.6	419.4	413.8
6°	706.9	690.9	643.4	589.8	514.5	458.5	421.6	404.5	396.7
7°	720.0	710.1	665.7	598.6	511.4	447.5	406.3	387.9	382.2
8°	729.2	725.3	683.5	613.2	509.9	437.2	392.8	381.5	374.7
9°	733.1	729.9	696.2	619.2	507.4	431.9	386.1	367.3	359.8
10°	729.9	731.4	705.5	628.5	503.5	420.9	374.7	358.4	349.2
11°	722.5	726.0	710.4	639.1	498.6	412.0	364.4	347.8	338.9
12°	708.3	716.1	712.6	646.6	494.0	404.2	357.3	341.4	333.6
13°	686.3	703.7	711.1	649.7	491.1	395.3	348.5	330.0	320.1
14°	666.4	684.5	707.2	656.8	486.2	385.4	340.3	321.9	313.3
15°	644.1	665.0	700.8	659.0	480.5	377.2	331.8	311.6	303.8
16°	612.8	640.9	689.1	661.5	473.7	368.0	324.0	304.8	294.5
17°	586.9	617.1	680.3	662.9	470.2	360.9	317.2	294.5	287.8
18°	563.2	597.2	664.3	661.8	464.5	352.7	307.3	287.1	280.7
19°	544.4	572.0	648.3	659.3	456.7	344.9	299.9	281.8	274.3
20°	517.0	549.0	630.6	658.3	449.6	337.8	292.8	274.3	267.9
21°	494.3	527.0	614.3	654.7	444.6	331.1	287.4	267.2	261.5
22.5°	464.5	493.3	586.9	648.0	433.6	319.7	275.7	260.5	252.7
23°	461.0	485.4	579.8	645.8	430.4	317.2	271.8	256.6	250.2
24°	438.6	464.5	563.2	639.1	422.3	309.4	265.4	251.9	244.5
25°	426.2	447.5	542.6	632.7	418.4	302.3	261.2	245.9	239.5
26°	408.8	433.3	524.1	623.5	409.9	296.0	254.4	240.6	234.6
27°	396.0	416.6	505.0	616.7	399.9	289.2	249.1	235.3	227.8
28°	383.6	403.5	486.5	605.7	392.8	281.8	245.2	230.7	223.6
29°	370.8	388.2	471.6	597.2	386.1	275.4	239.2	224.6	217.9
30°	360.2	376.2	452.8	585.9	376.9	267.9	233.9	220.4	214.3
32.5°	335.7	349.2	414.5	558.9	354.9	253.0	221.1	208.7	205.1
35°	315.1	324.0	379.3	528.7	334.3	237.0	210.8	198.7	196.9
37.5°	293.5	302.0	347.4	497.2	312.6	222.5	199.1	191.3	189.8
40°	269.7	281.0	320.1	465.9	291.0	208.3	188.8	182.8	183.1
42.5°	245.9	259.0	293.5	429.4	270.8	194.8	178.8	174.6	175.3
45°	219.3	236.0	269.7	396.0	248.4	182.0	168.9	166.8	166.8
47.5°	191.6	212.9	249.1	361.6	227.1	169.3	159.3	157.9	158.6
50°	167.8	187.0	226.0	328.2	206.9	157.6	149.4	149.0	149.8
52.5°	144.4	163.6	205.8	297.0	186.3	146.9	139.8	139.8	140.5
55°	126.0	140.9	185.6	264.4	166.8	134.5	128.8	129.9	131.3
57.5°	113.2	123.1	165.7	233.1	148.7	122.4	118.9	119.6	121.4
60°	99.0	106.8	146.2	204.4	132.0	110.7	108.9	110.4	112.1
62.5°	86.2	93.0	127.7	178.5	113.9	99.4	98.7	100.8	102.6
65°	75.9	80.6	108.6	152.2	99.4	88.0	87.7	90.8	93.0



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
67.5°	65.3	68.8	91.9	127.4	84.8	76.6	76.6	80.2	82.0
70°	55.4	58.2	75.9	105.0	72.4	65.3	65.6	69.9	71.3
72.5°	45.1	47.6	61.7	84.5	58.6	54.6	55.7	59.3	60.7
75°	36.6	38.3	48.6	66.7	46.8	43.6	45.1	48.3	49.3
77.5°	28.0	29.5	35.8	49.0	35.8	34.1	35.5	38.3	38.3
80°	20.6	20.9	25.5	34.4	25.5	24.5	26.3	27.7	27.7
82.5°	13.5	14.2	16.7	22.0	17.0	16.7	17.4	18.5	18.5
85°	7.8	8.2	9.2	12.1	9.6	9.6	10.3	10.3	9.9
87.5°	3.2	3.5	3.9	4.6	4.3	4.6	4.6	3.9	4.3
90°	0.0	0.0	0.0	0.0	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	17.19	18.71	17.56	19.03	19.34	16.77	18.29	17.13	18.60	18.92
	3H	18.39	19.76	18.77	20.09	20.45	18.28	19.65	18.66	19.97	20.34
	4H	18.79	20.07	19.19	20.42	20.80	18.81	20.09	19.21	20.44	20.82
	6H	19.04	20.23	19.46	20.59	20.99	19.16	20.34	19.57	20.71	21.10
	8H	19.11	20.23	19.53	20.62	21.02	19.26	20.38	19.68	20.77	21.18
	12H	19.14	20.22	19.57	20.60	21.03	19.31	20.39	19.74	20.77	21.20
4H	2H	18.25	19.53	18.65	19.88	20.26	17.84	19.12	18.24	19.47	19.85
	3H	19.61	20.68	20.02	21.07	21.48	19.46	20.53	19.87	20.93	21.33
	4H	20.07	21.03	20.50	21.45	21.88	20.04	21.00	20.48	21.42	21.86
	6H	20.38	21.22	20.84	21.66	22.12	20.47	21.30	20.92	21.74	22.20
	8H	20.46	21.24	20.93	21.69	22.15	20.58	21.36	21.05	21.81	22.27
	12H	20.51	21.21	20.99	21.69	22.16	20.66	21.35	21.14	21.83	22.30
8H	4H	20.43	21.21	20.89	21.65	22.12	20.39	21.17	20.85	21.61	22.08
	6H	20.83	21.47	21.33	21.96	22.44	20.91	21.55	21.40	22.04	22.52
	8H	20.95	21.53	21.46	22.04	22.53	21.07	21.65	21.59	22.16	22.65
	12H	21.04	21.55	21.55	22.04	22.60	21.20	21.71	21.71	22.20	22.76
12H	4H	20.45	21.15	20.93	21.62	22.10	20.40	21.10	20.89	21.58	22.05
	6H	20.87	21.45	21.39	21.96	22.45	20.95	21.53	21.46	22.03	22.52
	8H	21.04	21.55	21.55	22.05	22.61	21.17	21.67	21.67	22.17	22.73