

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: P242279

Luminaire Tested: S122DRP-S290D940-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P242279  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-10)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122DRP-S290D940-X4F0-XX-UDD-F-W  
Description: DEFINE 2 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

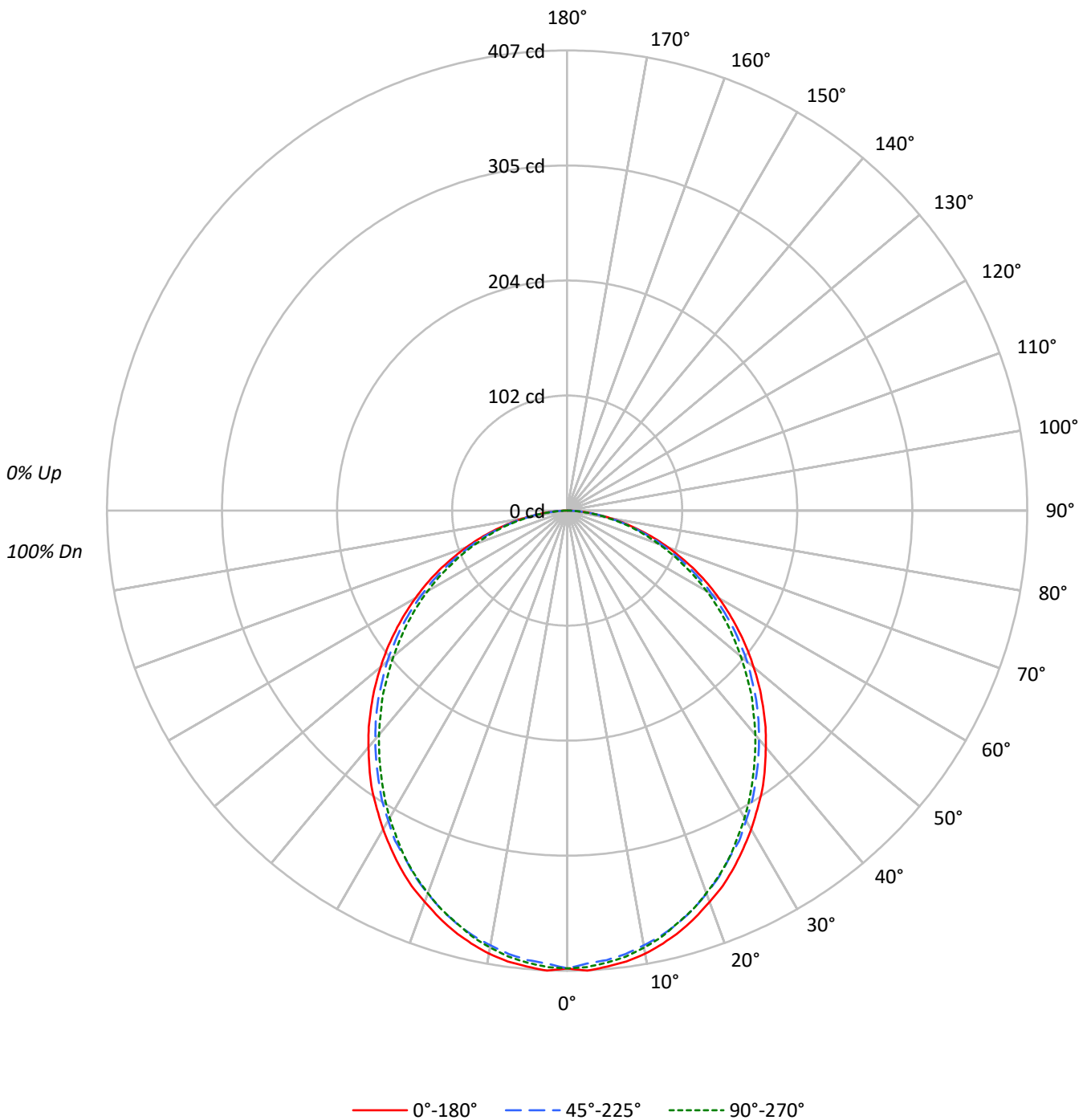
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1030.2 lumens  
Efficiency: N/A  
Efficacy: 88.8 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29  
Luminous Opening: Rectangular (W 0.15' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.6  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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	0																			
RCR																																														
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																												
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84																												
2	99	91	85	79	97	89	83	78	86	81	76	83	78	74	80	76	73	71																												
3	91	80	72	66	88	79	71	65	76	69	64	73	68	63	71	66	62	60																												
4	83	71	63	56	81	70	62	56	68	61	55	65	59	54	63	58	54	51																												
5	77	64	55	49	75	63	55	48	61	53	48	59	52	47	57	51	47	45																												
6	71	58	49	43	69	57	48	42	55	48	42	53	47	42	52	46	41	39																												
7	66	52	44	38	64	52	43	38	50	43	37	49	42	37	47	41	37	35																												
8	61	48	40	34	60	47	39	34	46	39	33	45	38	33	44	38	33	31																												
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28																												
10	54	41	33	28	53	40	33	28	39	32	28	38	32	27	37	32	27	26																												

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	7712	7712	7712
5°	7742	7631	7675
10°	7696	7553	7592
15°	7600	7456	7448
20°	7465	7307	7299
25°	7333	7127	7127
30°	7159	6961	6902
35°	6999	6762	6664
40°	6796	6564	6438
45°	6597	6365	6209
50°	6380	6161	5941
55°	6154	5921	5702
60°	5905	5638	5429
65°	5634	5350	5107
70°	5291	5007	4773
75°	4813	4614	4497
80°	4267	4146	3927
85°	3497	3322	2972

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6597 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	38.1	3.7
10°-20°	107.2	10.4
20°-30°	157.6	15.3
30°-40°	183.0	17.8
40°-50°	182.8	17.7
50°-60°	159.4	15.5
60°-70°	117.8	11.4
70°-80°	66.7	6.5
80°-90°	17.6	1.7
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°	302.9	29.4
0°-40°	485.9	47.2
0°-60°	828.1	80.4
0°-90°	1030.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1030.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	405	405	405	405	405	
5°	405	403	399	402	401	38
15°	385	383	378	380	378	109
25°	349	346	339	340	339	161
35°	301	297	291	288	287	188
45°	245	242	236	232	230	189
55°	185	183	178	174	172	166
65°	125	123	119	115	113	124
75°	65	65	63	60	61	70
85°	16	16	15	14	14	19
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	404.9	404.9	404.9	404.9	404.9
2.5°	407.3	405.3	401.0	404.9	404.1
5°	404.9	403.4	399.1	402.2	401.4
7.5°	402.2	399.9	395.6	398.7	397.9
10°	397.9	395.2	390.5	393.6	392.5
12.5°	392.1	389.7	385.1	387.0	386.2
15°	385.4	383.1	378.1	379.6	377.7
17.5°	377.3	374.9	369.9	371.8	369.9
20°	368.3	366.0	360.5	361.7	360.1
22.5°	359.4	355.9	350.8	350.8	350.0
25°	348.9	345.7	339.1	339.9	339.1
27.5°	337.2	334.4	329.4	328.2	326.3
30°	325.5	322.4	316.5	315.4	313.8
32.5°	313.0	310.7	304.5	302.1	300.6
35°	301.0	297.1	290.8	288.5	286.6
37.5°	287.3	283.8	277.6	274.9	272.9
40°	273.3	270.2	264.0	260.5	258.9
42.5°	259.7	256.6	250.3	246.5	244.1
45°	244.9	242.2	236.3	232.0	230.5
47.5°	230.5	227.8	221.5	217.3	214.9
50°	215.3	213.4	207.9	202.5	200.5
52.5°	200.5	197.8	192.7	188.4	185.7
55°	185.3	183.0	178.3	173.6	171.7
57.5°	170.1	168.2	163.1	158.5	156.9
60°	155.0	153.4	148.0	143.7	142.5
62.5°	140.2	137.4	133.5	129.7	128.1
65°	125.0	122.6	118.7	115.2	113.3
67.5°	109.4	107.5	104.0	101.2	99.7
70°	95.0	93.4	89.9	87.2	85.7
72.5°	80.2	78.6	76.7	74.0	72.8
75°	65.4	64.6	62.7	60.3	61.1
77.5°	52.2	50.6	49.8	48.7	47.5
80°	38.9	38.5	37.8	36.6	35.8
82.5°	26.5	26.5	26.1	24.5	24.5
85°	16.0	15.6	15.2	14.0	13.6
87.5°	7.0	6.2	5.5	4.3	3.9
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	18.38	19.99	18.74	20.30	20.62	17.94	19.55	18.30	19.86	20.18
	3H	20.13	21.58	20.51	21.91	22.27	19.64	21.09	20.02	21.42	21.78
	4H	20.78	22.15	21.17	22.49	22.87	20.28	21.65	20.68	22.00	22.37
	6H	21.25	22.51	21.66	22.88	23.27	20.74	22.01	21.16	22.38	22.77
	8H	21.39	22.60	21.81	22.99	23.39	20.89	22.10	21.31	22.49	22.88
	12H	21.48	22.64	21.91	23.02	23.45	20.97	22.13	21.40	22.51	22.94
4H	2H	18.94	20.31	19.34	20.66	21.03	18.59	19.96	18.99	20.31	20.68
	3H	20.91	22.06	21.32	22.46	22.86	20.51	21.66	20.92	22.05	22.45
	4H	21.69	22.73	22.12	23.14	23.58	21.27	22.30	21.70	22.72	23.15
	6H	22.29	23.19	22.74	23.63	24.09	21.86	22.76	22.31	23.20	23.66
	8H	22.48	23.32	22.94	23.77	24.23	22.04	22.89	22.50	23.33	23.79
	12H	22.61	23.37	23.09	23.85	24.31	22.16	22.92	22.64	23.39	23.86
8H	4H	21.96	22.81	22.43	23.25	23.72	21.59	22.44	22.05	22.88	23.35
	6H	22.68	23.38	23.17	23.87	24.35	22.30	23.00	22.79	23.49	23.96
	8H	22.94	23.57	23.45	24.08	24.56	22.55	23.18	23.06	23.68	24.17
	12H	23.14	23.70	23.65	24.19	24.75	22.72	23.28	23.23	23.77	24.33
12H	4H	21.99	22.75	22.47	23.23	23.70	21.63	22.39	22.11	22.86	23.33
	6H	22.72	23.36	23.23	23.86	24.35	22.36	22.99	22.87	23.50	23.98
	8H	23.04	23.60	23.55	24.09	24.65	22.66	23.22	23.17	23.71	24.27