

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: P243139

Luminaire Tested: S122DRP-H290D940-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243139  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-48)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122DRP-H290D940-X4F0-XX-UDD-F-W  
Description: DEFINE 2 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

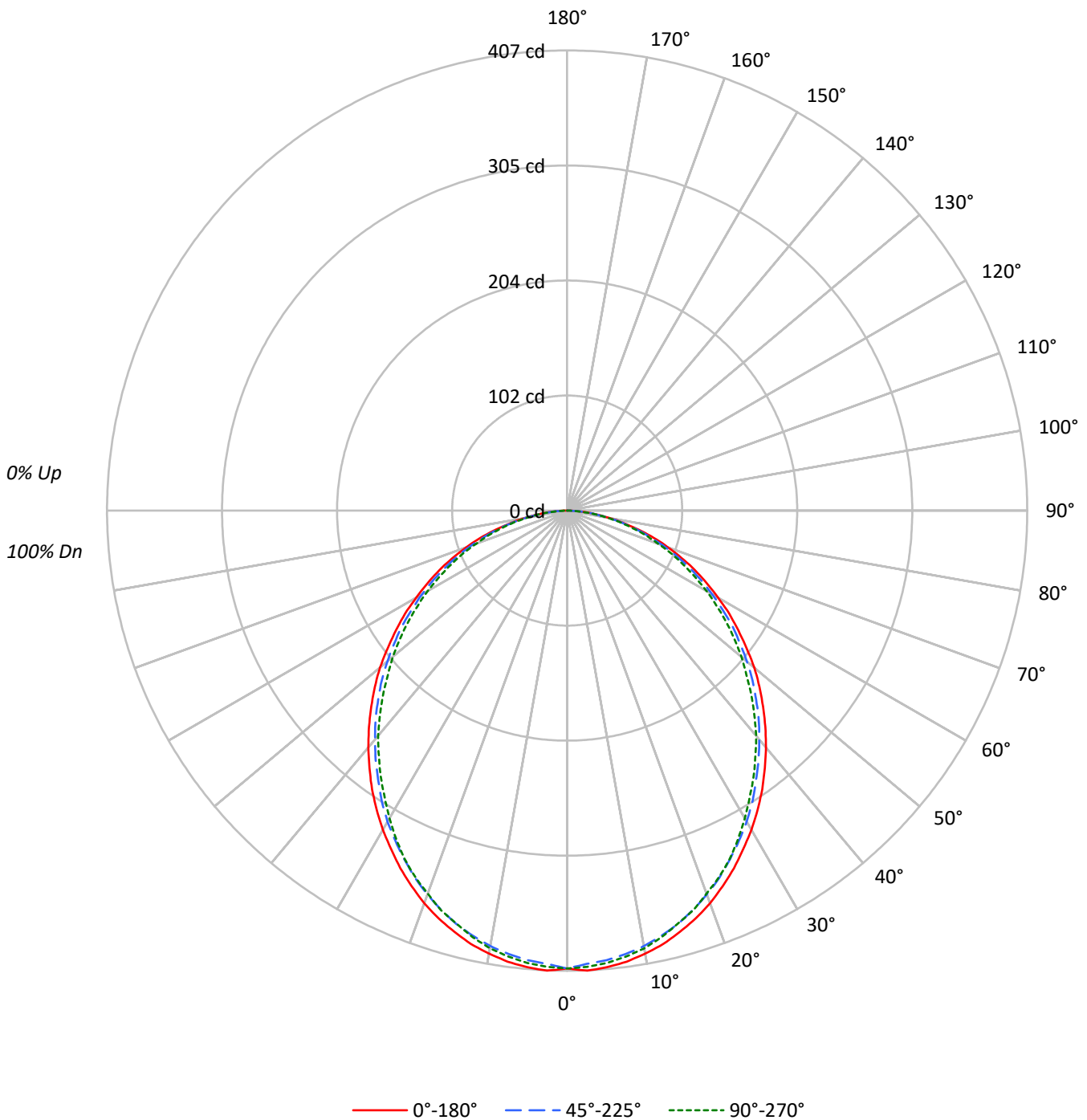
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1030.6 lumens  
Efficiency: N/A  
Efficacy: 92.0 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): 11.2  
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	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°	7714	7714	7714
5°	7751	7631	7681
10°	7696	7566	7603
15°	7604	7464	7458
20°	7492	7326	7309
25°	7335	7154	7148
30°	7168	6988	6913
35°	6997	6771	6683
40°	6803	6572	6470
45°	6597	6365	6204
50°	6404	6152	5962
55°	6137	5924	5702
60°	5874	5646	5432
65°	5620	5350	5116
70°	5280	5012	4762
75°	4806	4614	4394
80°	4179	4059	3894
85°	3584	3191	2929

**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°	107.3	10.4
20°-30°	157.8	15.3
30°-40°	183.3	17.8
40°-50°	183.0	17.8
50°-60°	159.4	15.5
60°-70°	117.9	11.4
70°-80°	66.5	6.4
80°-90°	17.3	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°	303.3	29.4
0°-40°	486.6	47.2
0°-60°	829.0	80.4
0°-90°	1030.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1030.6	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	405	405	405	405	405	
5°	405	404	399	402	402	38
15°	386	384	378	380	378	109
25°	349	346	340	340	340	161
35°	301	298	291	289	287	188
45°	245	242	236	233	230	189
55°	185	183	178	174	172	166
65°	125	123	119	115	114	123
75°	65	65	63	60	60	69
85°	16	16	15	14	13	19
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	405.0	405.0	405.0	405.0	405.0
2.5°	407.3	405.4	401.3	404.7	403.9
5°	405.4	403.5	399.1	402.4	401.7
7.5°	402.4	400.5	395.7	399.1	397.9
10°	397.9	395.7	391.2	393.5	393.1
12.5°	392.7	390.5	385.2	387.1	386.4
15°	385.6	383.8	378.5	380.0	378.2
17.5°	378.2	375.2	370.3	371.8	370.7
20°	369.6	366.6	361.4	362.1	360.6
22.5°	359.5	356.5	351.6	351.6	350.9
25°	349.0	346.0	340.4	340.1	340.1
27.5°	337.5	334.8	329.2	328.1	327.4
30°	325.9	323.6	317.7	315.4	314.3
32.5°	313.6	310.6	305.0	302.4	300.5
35°	300.9	297.5	291.2	288.6	287.4
37.5°	287.1	283.7	278.1	275.9	273.6
40°	273.6	270.6	264.3	260.9	260.2
42.5°	259.4	256.5	250.9	247.1	244.9
45°	244.9	242.3	236.3	232.6	230.3
47.5°	230.7	227.7	222.5	218.0	215.0
50°	216.1	213.2	207.6	202.3	201.2
52.5°	200.1	198.2	192.6	187.8	186.3
55°	184.8	183.3	178.4	173.6	171.7
57.5°	170.2	168.4	162.8	159.0	156.8
60°	154.2	153.1	148.2	144.1	142.6
62.5°	139.2	137.7	133.6	129.5	127.7
65°	124.7	122.8	118.7	115.0	113.5
67.5°	109.7	107.9	104.5	101.5	100.0
70°	94.8	93.3	90.0	87.4	85.5
72.5°	80.3	78.8	75.8	73.2	72.8
75°	65.3	65.0	62.7	60.5	59.7
77.5°	51.5	51.1	49.6	48.5	47.8
80°	38.1	38.1	37.0	35.8	35.5
82.5°	26.1	26.5	25.4	24.6	24.6
85°	16.4	15.7	14.6	13.8	13.4
87.5°	6.7	5.6	5.2	4.1	3.7
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	18.38	19.99	18.75	20.31	20.62	17.95	19.56	18.32	19.88	20.19
	3H	20.14	21.59	20.51	21.92	22.28	19.65	21.11	20.03	21.44	21.80
	4H	20.78	22.15	21.18	22.50	22.88	20.28	21.65	20.68	22.00	22.37
	6H	21.24	22.51	21.65	22.87	23.26	20.74	22.01	21.15	22.37	22.77
	8H	21.38	22.59	21.80	22.98	23.38	20.88	22.09	21.31	22.48	22.88
	12H	21.47	22.63	21.90	23.01	23.44	20.96	22.12	21.39	22.50	22.93
4H	2H	18.94	20.31	19.34	20.66	21.04	18.60	19.97	19.00	20.32	20.69
	3H	20.92	22.06	21.33	22.46	22.86	20.52	21.66	20.93	22.06	22.46
	4H	21.70	22.73	22.13	23.15	23.58	21.27	22.30	21.70	22.71	23.15
	6H	22.28	23.19	22.74	23.63	24.09	21.85	22.75	22.30	23.19	23.65
	8H	22.47	23.31	22.93	23.76	24.22	22.03	22.88	22.49	23.32	23.78
	12H	22.60	23.36	23.08	23.84	24.31	22.15	22.91	22.63	23.38	23.85
8H	4H	21.97	22.82	22.43	23.26	23.72	21.59	22.43	22.05	22.88	23.34
	6H	22.67	23.37	23.16	23.86	24.34	22.28	22.99	22.78	23.47	23.95
	8H	22.93	23.56	23.44	24.06	24.55	22.53	23.16	23.04	23.67	24.15
	12H	23.13	23.69	23.64	24.18	24.74	22.71	23.26	23.21	23.76	24.32
12H	4H	21.99	22.75	22.47	23.23	23.70	21.62	22.38	22.10	22.86	23.33
	6H	22.71	23.34	23.22	23.85	24.34	22.34	22.97	22.85	23.48	23.96
	8H	23.02	23.58	23.53	24.07	24.63	22.64	23.20	23.15	23.69	24.25