

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: P243115

Luminaire Tested: S122DRP-H290D830-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-2024  
Report Number: P243115  
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-H290D830-X4F0-XX-UDD-F-W  
Description: DEFINE 2 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

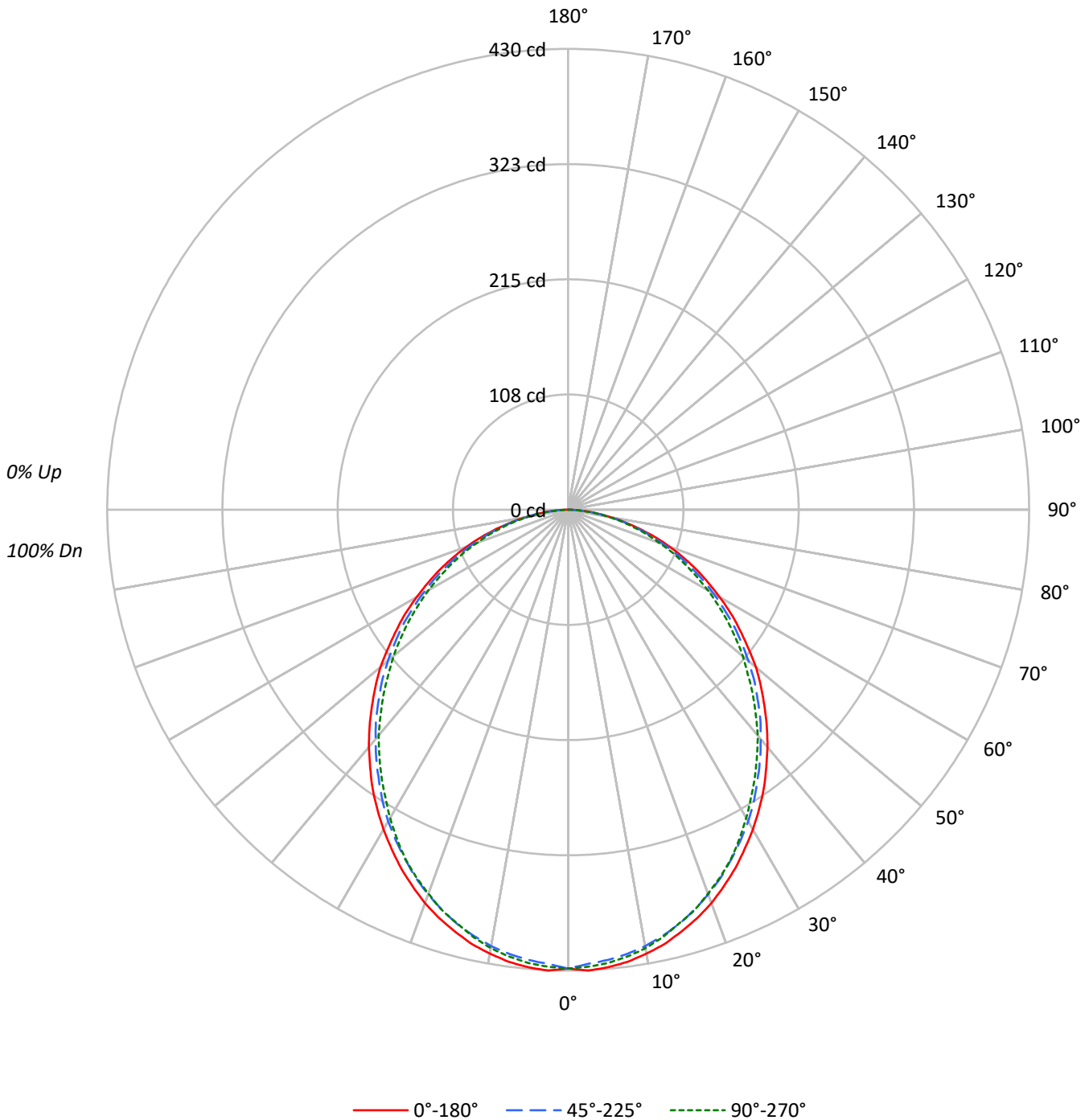
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1089.4 lumens  
Efficiency: N/A  
Efficacy: 97.3 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 (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	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°	8154	8154	8154
5°	8193	8065	8119
10°	8135	7998	8036
15°	8038	7890	7882
20°	7918	7743	7727
25°	7753	7564	7556
30°	7577	7386	7307
35°	7394	7157	7064
40°	7191	6947	6838
45°	6971	6729	6559
50°	6771	6501	6303
55°	6486	6263	6027
60°	6210	5966	5741
65°	5940	5656	5408
70°	5580	5296	5035
75°	5085	4879	4644
80°	4410	4289	4113
85°	3803	3366	3103

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 6971 cd/sqm



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	40.3	3.7
10°-20°	113.5	10.4
20°-30°	166.8	15.3
30°-40°	193.7	17.8
40°-50°	193.5	17.8
50°-60°	168.5	15.5
60°-70°	124.6	11.4
70°-80°	70.2	6.4
80°-90°	18.3	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°	320.6	29.4
0°-40°	514.3	47.2
0°-60°	876.2	80.4
0°-90°	1089.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1089.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	428	428	428	428	428	
5°	428	426	422	425	425	41
15°	408	406	400	402	400	115
25°	369	366	360	360	360	170
35°	318	314	308	305	304	199
45°	259	256	250	246	244	200
55°	195	194	189	184	182	175
65°	132	130	126	122	120	130
75°	69	69	66	64	63	73
85°	17	17	15	15	14	20
90°	0	0	0	0	0	

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	428.1	428.1	428.1	428.1	428.1
2.5°	430.5	428.5	424.2	427.7	426.9
5°	428.5	426.5	421.8	425.4	424.6
7.5°	425.4	423.4	418.3	421.8	420.6
10°	420.6	418.3	413.5	415.9	415.5
12.5°	415.1	412.7	407.2	409.2	408.4
15°	407.6	405.6	400.1	401.7	399.7
17.5°	399.7	396.6	391.4	393.0	391.8
20°	390.6	387.5	382.0	382.7	381.2
22.5°	380.0	376.8	371.7	371.7	370.9
25°	368.9	365.8	359.9	359.5	359.5
27.5°	356.7	353.9	348.0	346.8	346.0
30°	344.5	342.1	335.8	333.4	332.2
32.5°	331.4	328.3	322.4	319.6	317.6
35°	318.0	314.5	307.8	305.0	303.8
37.5°	303.4	299.9	294.0	291.6	289.2
40°	289.2	286.1	279.4	275.8	275.0
42.5°	274.2	271.1	265.2	261.2	258.8
45°	258.8	256.1	249.8	245.8	243.5
47.5°	243.8	240.7	235.2	230.4	227.3
50°	228.5	225.3	219.4	213.9	212.7
52.5°	211.5	209.5	203.6	198.5	196.9
55°	195.3	193.7	188.6	183.5	181.5
57.5°	179.9	178.0	172.0	168.1	165.7
60°	163.0	161.8	156.6	152.3	150.7
62.5°	147.2	145.6	141.3	136.9	134.9
65°	131.8	129.8	125.5	121.5	120.0
67.5°	116.0	114.0	110.5	107.3	105.7
70°	100.2	98.6	95.1	92.3	90.4
72.5°	84.8	83.3	80.1	77.3	76.9
75°	69.1	68.7	66.3	63.9	63.1
77.5°	54.5	54.1	52.5	51.3	50.5
80°	40.2	40.2	39.1	37.9	37.5
82.5°	27.6	28.0	26.8	26.0	26.0
85°	17.4	16.6	15.4	14.6	14.2
87.5°	7.1	5.9	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	18.58	20.19	18.94	20.50	20.82	18.15	19.76	18.51	20.07	20.39
	3H	20.33	21.78	20.71	22.11	22.47	19.85	21.30	20.22	21.63	21.99
	4H	20.98	22.34	21.37	22.69	23.07	20.47	21.84	20.87	22.19	22.57
	6H	21.43	22.70	21.84	23.07	23.46	20.93	22.20	21.35	22.57	22.96
	8H	21.57	22.78	22.00	23.17	23.57	21.07	22.28	21.50	22.67	23.07
	12H	21.66	22.82	22.09	23.21	23.63	21.15	22.31	21.58	22.70	23.12
4H	2H	19.14	20.50	19.54	20.85	21.23	18.79	20.16	19.19	20.51	20.89
	3H	21.11	22.26	21.52	22.65	23.05	20.71	21.85	21.12	22.25	22.65
	4H	21.89	22.93	22.32	23.34	23.78	21.46	22.49	21.89	22.91	23.34
	6H	22.48	23.38	22.93	23.82	24.28	22.04	22.94	22.49	23.39	23.84
	8H	22.66	23.51	23.12	23.95	24.41	22.22	23.07	22.68	23.51	23.98
	12H	22.80	23.56	23.28	24.03	24.50	22.34	23.10	22.82	23.57	24.04
8H	4H	22.16	23.01	22.62	23.45	23.92	21.78	22.62	22.24	23.07	23.53
	6H	22.86	23.57	23.36	24.05	24.53	22.48	23.18	22.97	23.67	24.14
	8H	23.12	23.75	23.63	24.25	24.74	22.72	23.35	23.23	23.86	24.35
	12H	23.32	23.88	23.83	24.37	24.93	22.90	23.46	23.41	23.95	24.51
12H	4H	22.19	22.95	22.67	23.42	23.89	21.81	22.57	22.29	23.05	23.52
	6H	22.91	23.54	23.42	24.04	24.53	22.53	23.16	23.04	23.67	24.16
	8H	23.21	23.77	23.72	24.26	24.82	22.83	23.39	23.34	23.88	24.44