

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: P243242

Luminaire Tested: S122RDRP-H290D940-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243242
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-63)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122RDRP-H290D940-X4F0-XX-UDD-F-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

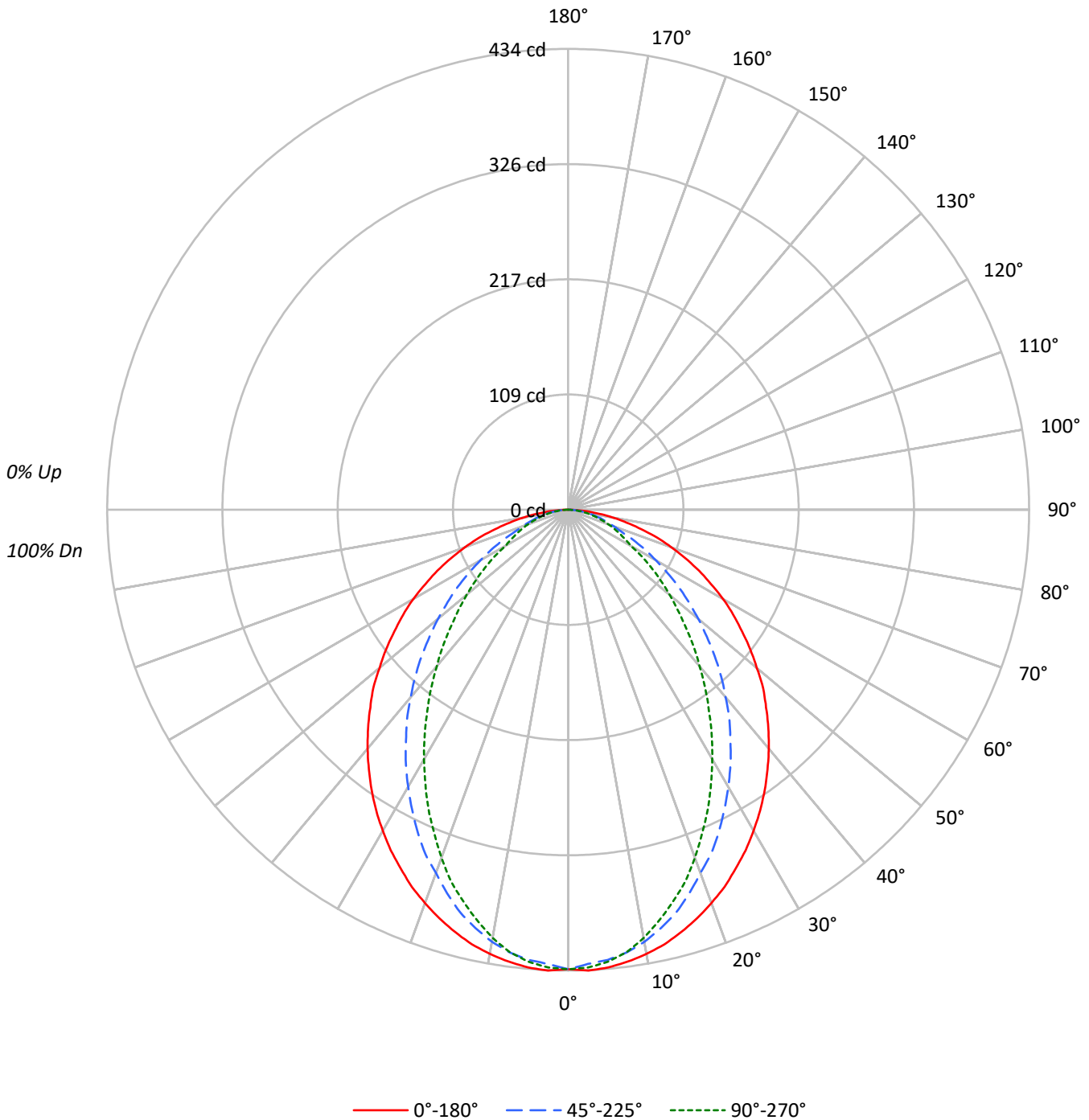
Lumens per Lamp: N/A
Luminaire Lumens: 887.3 lumens
Efficiency: N/A
Efficacy: 79.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.15' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 11.2
Input Voltage (V): 120
Input Current (A_{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	
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	77	82	79	76	74
3	93	83	76	70	90	82	75	69	79	73	68	76	71	67	74	69	66	64
4	86	75	66	60	83	73	66	60	71	64	59	69	63	58	66	62	57	55
5	79	67	59	53	77	66	58	52	64	57	52	62	56	51	60	55	51	49
6	74	61	53	47	72	60	52	46	58	51	46	57	50	46	55	50	45	43
7	68	56	47	42	67	55	47	42	53	46	41	52	46	41	51	45	41	39
8	64	51	43	38	62	51	43	37	49	42	37	48	42	37	47	41	37	35
9	60	47	39	34	59	47	39	34	46	39	34	44	38	34	44	38	34	32
10	56	44	36	31	55	43	36	31	42	36	31	41	35	31	41	35	31	29

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8242	8242	8242
5°	8273	8138	8172
10°	8216	7992	7920
15°	8119	7744	7531
20°	7990	7378	7068
25°	7837	7045	6543
30°	7676	6627	5969
35°	7499	6190	5374
40°	7305	5736	4789
45°	7098	5258	4213
50°	6869	4735	3695
55°	6632	4214	3185
60°	6415	3627	2602
65°	6125	3060	2407
70°	5759	2534	2244
75°	5247	2311	2061
80°	4706	2051	1843
85°	3912	1705	1639

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7098 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.5	4.6
10°-20°	111.1	12.5
20°-30°	155.8	17.6
30°-40°	169.7	19.1
40°-50°	156.0	17.6
50°-60°	122.4	13.8
60°-70°	79.8	9.0
70°-80°	41.3	4.7
80°-90°	10.7	1.2
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°	307.4	34.6
0°-40°	477.1	53.8
0°-60°	755.5	85.1
0°-90°	887.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	887.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	433	433	433	433	433	
5°	433	430	426	428	427	41
15°	412	407	393	385	382	116
25°	373	360	335	319	311	172
35°	322	301	266	242	231	202
45°	264	237	195	167	156	203
55°	200	170	127	103	96	179
65°	136	103	68	55	53	134
75°	71	44	31	29	28	76
85°	18	9	8	8	8	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	432.7	432.7	432.7	432.7	432.7
2.5°	434.5	432.7	428.2	432.3	431.5
5°	432.7	430.4	425.6	428.5	427.4
7.5°	429.3	427.1	420.7	422.2	420.3
10°	424.8	421.8	413.2	411.7	409.5
12.5°	419.2	415.1	403.5	399.1	396.1
15°	411.7	406.9	392.7	384.9	381.9
17.5°	403.5	396.4	378.9	369.9	367.0
20°	394.2	386.0	364.0	354.6	348.7
22.5°	384.5	374.0	351.3	336.7	329.6
25°	372.9	359.9	335.2	318.8	311.3
27.5°	361.7	346.4	318.4	299.4	291.2
30°	349.0	332.2	301.3	279.2	271.4
32.5°	336.3	316.9	284.5	260.6	251.6
35°	322.5	301.3	266.2	241.5	231.1
37.5°	308.3	286.3	249.4	222.1	212.0
40°	293.8	269.1	230.7	202.3	192.6
42.5°	278.9	253.8	213.2	184.0	174.7
45°	263.5	236.7	195.2	166.9	156.4
47.5°	249.0	219.9	176.9	150.1	140.0
50°	231.8	203.1	159.8	132.5	124.7
52.5°	216.1	186.3	143.0	116.8	110.1
55°	199.7	169.9	126.9	103.0	95.9
57.5°	184.4	152.7	110.9	89.2	82.5
60°	168.4	136.3	95.2	75.4	68.3
62.5°	151.6	119.5	81.4	62.7	60.5
65°	135.9	103.0	67.9	55.2	53.4
67.5°	119.1	87.7	54.1	48.5	46.7
70°	103.4	72.8	45.5	41.4	40.3
72.5°	88.1	58.6	38.4	35.1	34.0
75°	71.3	44.4	31.4	28.7	28.0
77.5°	56.7	31.4	25.0	23.1	22.4
80°	42.9	22.8	18.7	17.5	16.8
82.5°	29.5	15.3	13.1	12.3	11.9
85°	17.9	8.6	7.8	7.5	7.5
87.5°	7.1	3.4	3.4	3.0	3.0
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	18.58	20.10	18.94	20.41	20.73	14.46	15.98	14.82	16.29	16.61
	3H	20.34	21.71	20.72	22.03	22.40	15.75	17.12	16.13	17.45	17.81
	4H	21.00	22.28	21.40	22.63	23.01	16.26	17.54	16.66	17.89	18.27
	6H	21.49	22.68	21.90	23.04	23.43	16.64	17.83	17.05	18.19	18.58
	8H	21.66	22.78	22.08	23.17	23.57	16.76	17.89	17.19	18.28	18.68
	12H	21.77	22.85	22.20	23.23	23.66	16.85	17.92	17.28	18.31	18.74
4H	2H	18.68	19.96	19.08	20.31	20.68	15.16	16.45	15.56	16.79	17.17
	3H	20.61	21.68	21.02	22.08	22.48	16.64	17.70	17.05	18.10	18.50
	4H	21.36	22.31	21.79	22.73	23.17	17.24	18.20	17.68	18.62	19.05
	6H	21.95	22.78	22.41	23.22	23.68	17.73	18.57	18.19	19.01	19.47
	8H	22.16	22.94	22.63	23.38	23.85	17.89	18.67	18.36	19.12	19.58
	12H	22.33	23.02	22.81	23.50	23.97	18.01	18.71	18.49	19.19	19.66
8H	4H	21.38	22.16	21.85	22.60	23.07	17.60	18.38	18.07	18.83	19.29
	6H	22.02	22.66	22.52	23.15	23.63	18.20	18.84	18.69	19.33	19.81
	8H	22.27	22.85	22.78	23.36	23.84	18.42	18.99	18.93	19.50	19.99
	12H	22.48	22.99	22.99	23.49	24.05	18.60	19.11	19.11	19.60	20.17
12H	4H	21.37	22.06	21.85	22.54	23.01	17.65	18.34	18.13	18.82	19.29
	6H	22.00	22.58	22.51	23.09	23.58	18.26	18.84	18.77	19.35	19.84
	8H	22.29	22.80	22.79	23.29	23.85	18.54	19.05	19.05	19.54	20.10