

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: P243227

Luminaire Tested: S122RDRP-H290D840-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243227
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-H290D840-X4F0-XX-UDD-F-W
Description: DEFINE 2 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

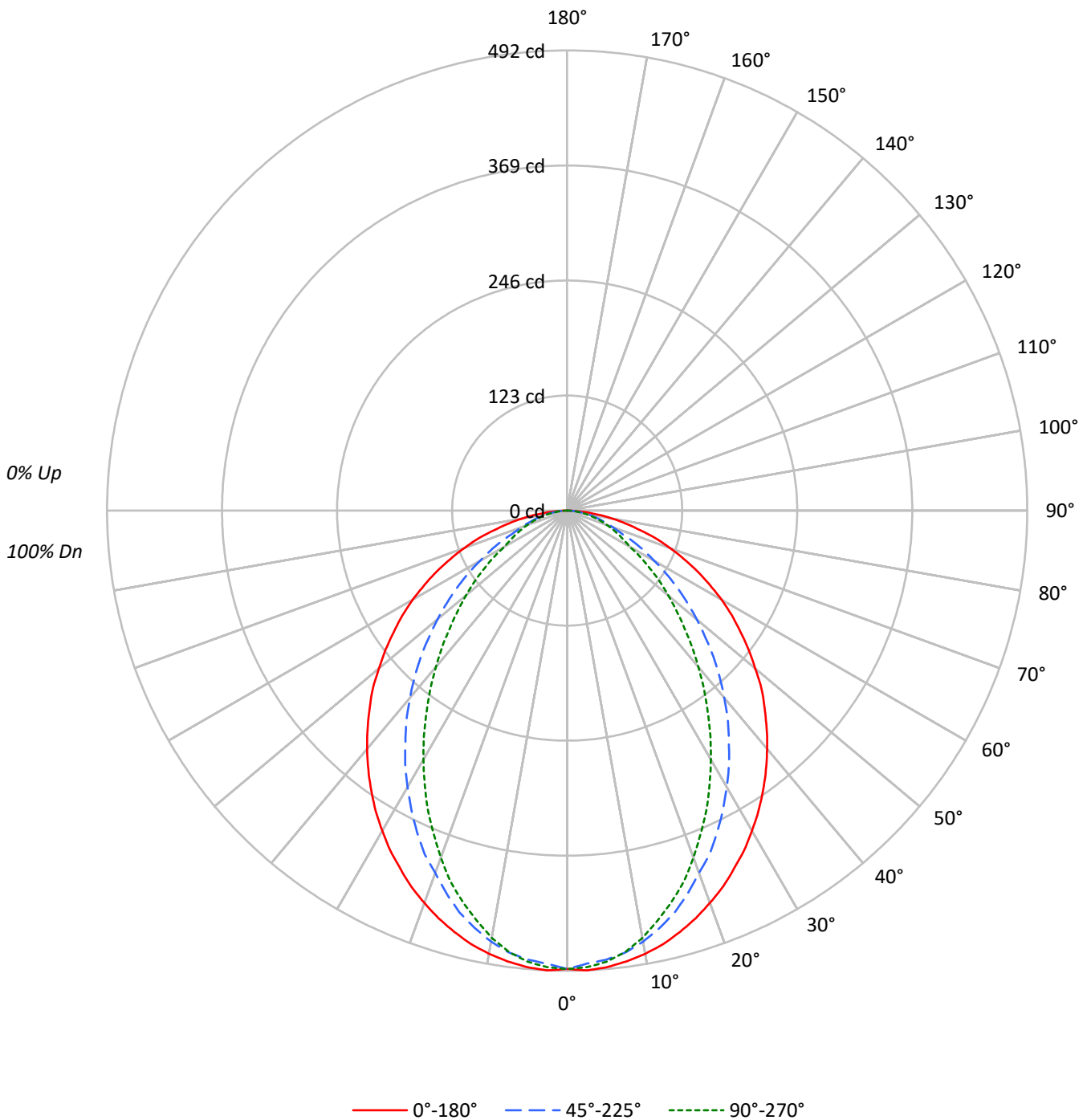
Lumens per Lamp: N/A
Luminaire Lumens: 1004.9 lumens
Efficiency: N/A
Efficacy: 89.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.15' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 11.2
Input Voltage (V): 120
Input Current (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	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°	9333	9333	9333
5°	9369	9214	9256
10°	9305	9052	8971
15°	9195	8769	8529
20°	9049	8355	8005
25°	8875	7978	7411
30°	8694	7504	6759
35°	8494	7008	6085
40°	8273	6497	5423
45°	8041	5956	4771
50°	7779	5361	4184
55°	7512	4772	3606
60°	7265	4107	2949
65°	6936	3466	2727
70°	6522	2874	2545
75°	5939	2613	2333
80°	5331	2314	2084
85°	4437	1945	1858

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8041 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.9	4.6
10°-20°	125.8	12.5
20°-30°	176.4	17.6
30°-40°	192.2	19.1
40°-50°	176.6	17.6
50°-60°	138.6	13.8
60°-70°	90.4	9.0
70°-80°	46.8	4.7
80°-90°	12.1	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°	348.1	34.6
0°-40°	540.3	53.8
0°-60°	855.6	85.1
0°-90°	1004.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1004.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	490	490	490	490	490	
5°	490	487	482	485	484	46
15°	466	461	445	436	432	131
25°	422	408	380	361	353	195
35°	365	341	301	274	262	228
45°	298	268	221	189	177	230
55°	226	192	144	117	109	203
65°	154	117	77	63	60	152
75°	81	50	36	33	32	86
85°	20	10	9	8	8	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	490.0	490.0	490.0	490.0	490.0
2.5°	492.1	490.0	484.9	489.6	488.7
5°	490.0	487.4	481.9	485.3	484.1
7.5°	486.2	483.6	476.5	478.1	476.0
10°	481.1	477.7	468.0	466.3	463.8
12.5°	474.8	470.1	457.0	451.9	448.5
15°	466.3	460.8	444.7	435.9	432.5
17.5°	457.0	449.0	429.1	419.0	415.6
20°	446.4	437.1	412.2	401.6	394.9
22.5°	435.4	423.6	397.8	381.3	373.3
25°	422.3	407.5	379.6	361.0	352.6
27.5°	409.7	392.3	360.6	339.1	329.8
30°	395.3	376.3	341.2	316.2	307.3
32.5°	380.9	358.9	322.1	295.1	284.9
35°	365.3	341.2	301.4	273.5	261.7
37.5°	349.2	324.3	282.4	251.5	240.1
40°	332.7	304.8	261.3	229.1	218.1
42.5°	315.8	287.5	241.4	208.4	197.9
45°	298.5	268.0	221.1	189.0	177.1
47.5°	282.0	249.0	200.4	169.9	158.5
50°	262.5	230.0	180.9	150.1	141.2
52.5°	244.8	211.0	161.9	132.3	124.7
55°	226.2	192.4	143.7	116.7	108.6
57.5°	208.8	172.9	125.6	101.0	93.4
60°	190.7	154.3	107.8	85.4	77.4
62.5°	171.6	135.3	92.2	71.0	68.5
65°	153.9	116.7	76.9	62.6	60.5
67.5°	134.9	99.3	61.3	55.0	52.8
70°	117.1	82.4	51.6	46.9	45.7
72.5°	99.8	66.4	43.5	39.7	38.5
75°	80.7	50.3	35.5	32.6	31.7
77.5°	64.3	35.5	28.3	26.2	25.4
80°	48.6	25.8	21.1	19.9	19.0
82.5°	33.4	17.3	14.8	14.0	13.5
85°	20.3	9.7	8.9	8.5	8.5
87.5°	8.0	3.8	3.8	3.4	3.4
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	19.01	20.53	19.37	20.84	21.16	14.89	16.41	15.26	16.73	17.04
	3H	20.77	22.14	21.15	22.47	22.83	16.18	17.55	16.56	17.88	18.24
	4H	21.43	22.72	21.83	23.06	23.44	16.69	17.97	17.09	18.32	18.70
	6H	21.92	23.11	22.34	23.47	23.87	17.08	18.26	17.49	18.63	19.02
	8H	22.09	23.22	22.51	23.60	24.01	17.20	18.32	17.62	18.71	19.12
	12H	22.20	23.28	22.63	23.66	24.09	17.28	18.36	17.71	18.74	19.17
4H	2H	19.11	20.39	19.51	20.74	21.12	15.60	16.88	16.00	17.23	17.60
	3H	21.05	22.11	21.46	22.51	22.91	17.07	18.13	17.48	18.53	18.93
	4H	21.79	22.75	22.22	23.16	23.60	17.68	18.63	18.11	19.05	19.49
	6H	22.38	23.21	22.84	23.66	24.12	18.17	19.00	18.63	19.44	19.90
	8H	22.59	23.37	23.06	23.82	24.28	18.33	19.11	18.79	19.55	20.02
	12H	22.76	23.45	23.24	23.93	24.40	18.45	19.14	18.93	19.62	20.09
8H	4H	21.81	22.59	22.28	23.04	23.50	18.04	18.82	18.50	19.26	19.73
	6H	22.45	23.09	22.95	23.59	24.06	18.63	19.27	19.13	19.77	20.24
	8H	22.70	23.28	23.21	23.79	24.28	18.85	19.43	19.37	19.94	20.43
	12H	22.92	23.43	23.42	23.92	24.48	19.04	19.55	19.55	20.04	20.60
12H	4H	21.80	22.49	22.28	22.97	23.44	18.08	18.78	18.56	19.25	19.73
	6H	22.43	23.01	22.95	23.52	24.01	18.69	19.27	19.21	19.78	20.27
	8H	22.72	23.23	23.23	23.72	24.28	18.97	19.48	19.48	19.97	20.54