

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: P242555

Luminaire Tested: S123RDRP-S560D940-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242555
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-25)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDRP-S560D940-X4F0-XX-UDD-F-W
Description: DEFINE 3 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

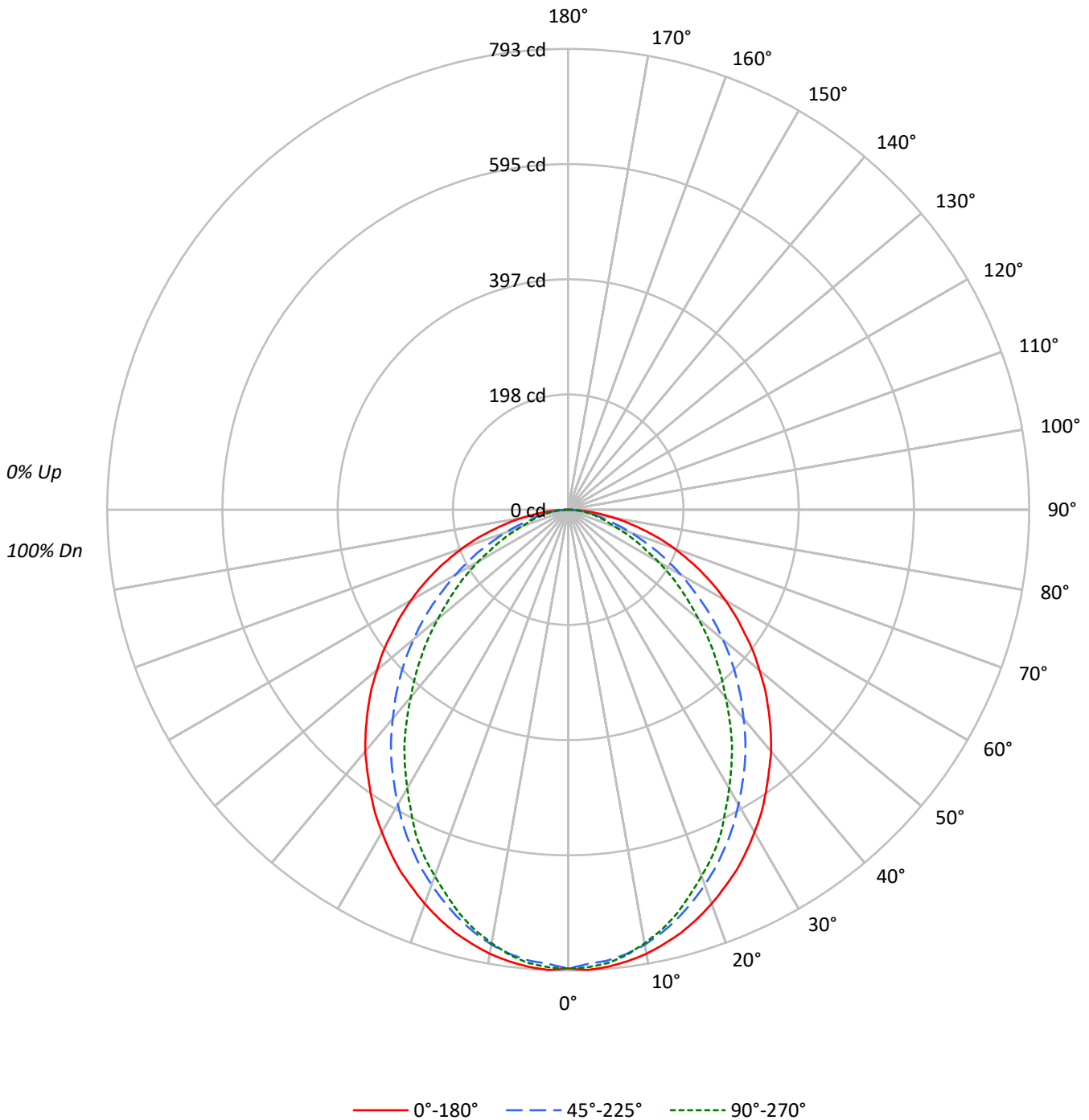
Lumens per Lamp: N/A
Luminaire Lumens: 1783.5 lumens
Efficiency: N/A
Efficacy: 94.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.07 / 1.22
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 18.8
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																		
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	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	105	101	98	107	103	99	96	99	96	93	95	93	90	91	89	88	86																												
2	100	93	86	81	98	91	85	80	87	83	78	84	80	77	81	78	75	73																												
3	92	82	75	68	90	81	74	68	78	72	67	75	70	66	73	68	64	62																												
4	85	73	65	59	83	72	64	58	70	63	58	67	62	57	65	60	56	54																												
5	78	66	57	51	76	65	57	51	63	56	50	61	55	50	59	54	49	47																												
6	73	60	51	45	71	59	51	45	57	50	45	55	49	44	54	48	44	42																												
7	67	54	46	40	66	54	46	40	52	45	40	51	44	39	49	44	39	37																												
8	63	50	42	36	61	49	41	36	48	41	36	47	40	36	46	40	35	34																												
9	59	46	38	33	58	45	38	33	44	37	32	43	37	32	42	36	32	30																												
10	55	43	35	30	54	42	35	30	41	34	30	40	34	29	39	34	29	28																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9570	9570	9570
5°	9606	9474	9528
10°	9551	9354	9322
15°	9449	9136	9039
20°	9308	8862	8655
25°	9163	8554	8280
30°	8970	8199	7751
35°	8773	7844	7267
40°	8592	7426	6666
45°	8352	7013	6125
50°	8090	6543	5518
55°	7821	6008	4951
60°	7576	5433	4330
65°	7253	4813	3708
70°	6854	4040	2995
75°	6266	3180	2819
80°	5584	2813	2590
85°	4715	2489	2309

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8352 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.2	4.2
10°-20°	206.4	11.6
20°-30°	297.2	16.7
30°-40°	334.7	18.8
40°-50°	320.2	18.0
50°-60°	262.1	14.7
60°-70°	176.7	9.9
70°-80°	88.6	5.0
80°-90°	23.2	1.3
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°	577.9	32.4
0°-40°	912.7	51.2
0°-60°	1495.0	83.8
0°-90°	1783.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1783.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	790	790	790	790	790	
5°	790	786	779	784	783	75
15°	753	746	728	725	720	212
25°	685	669	640	626	619	315
35°	593	570	530	503	491	371
45°	487	458	409	373	357	376
55°	370	339	284	247	234	332
65°	253	218	168	136	129	250
75°	134	103	68	62	60	143
85°	34	20	18	17	17	39
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	789.5	789.5	789.5	789.5	789.5
2.5°	792.7	790.1	782.4	789.5	788.2
5°	789.5	786.3	778.6	784.3	783.1
7.5°	783.7	780.5	770.9	774.7	772.8
10°	776.0	771.5	760.0	760.6	757.4
12.5°	765.1	760.0	745.3	744.6	740.8
15°	753.0	745.9	728.0	724.8	720.3
17.5°	738.2	730.6	708.1	701.7	695.3
20°	721.6	711.3	687.0	678.7	671.0
22.5°	703.0	690.9	664.6	653.7	646.7
25°	685.1	669.1	639.6	626.2	619.1
27.5°	663.3	646.0	614.0	596.1	585.2
30°	640.9	621.7	585.8	564.1	553.8
32.5°	618.5	596.1	557.7	533.3	522.5
35°	592.9	569.8	530.1	502.6	491.1
37.5°	567.3	542.3	500.7	470.0	455.9
40°	543.0	514.8	469.3	436.0	421.3
42.5°	515.4	487.2	439.9	402.7	389.9
45°	487.2	458.4	409.1	372.6	357.3
47.5°	459.7	427.7	379.0	339.3	325.9
50°	429.0	398.9	347.0	307.3	292.6
52.5°	401.5	368.2	316.9	275.3	262.5
55°	370.1	338.7	284.3	247.1	234.3
57.5°	341.9	308.0	252.9	217.7	206.8
60°	312.5	277.2	224.1	189.5	178.6
62.5°	283.0	247.8	194.6	162.6	151.1
65°	252.9	217.7	167.8	136.4	129.3
67.5°	222.8	187.0	138.3	114.6	106.9
70°	193.4	158.8	114.0	91.6	84.5
72.5°	163.9	130.0	90.3	73.0	71.1
75°	133.8	103.1	67.9	61.5	60.2
77.5°	106.3	78.1	53.1	49.3	48.0
80°	80.0	53.8	40.3	38.4	37.1
82.5°	55.1	33.3	28.8	26.9	26.9
85°	33.9	19.8	17.9	16.6	16.6
87.5°	15.4	8.3	8.3	7.7	7.0
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	19.30	20.85	19.66	21.16	21.48	16.67	18.22	17.03	18.54	18.85
	3H	21.07	22.47	21.45	22.80	23.16	17.78	19.18	18.16	19.50	19.86
	4H	21.73	23.04	22.13	23.39	23.77	18.17	19.49	18.57	19.83	20.21
	6H	22.21	23.43	22.63	23.79	24.18	18.49	19.70	18.90	20.07	20.46
	8H	22.36	23.52	22.79	23.91	24.31	18.60	19.76	19.03	20.15	20.55
	12H	22.47	23.57	22.90	23.96	24.38	18.68	19.78	19.11	20.16	20.59
4H	2H	19.56	20.87	19.95	21.22	21.59	17.38	18.69	17.78	19.04	19.42
	3H	21.52	22.61	21.93	23.01	23.41	18.66	19.75	19.07	20.15	20.55
	4H	22.29	23.27	22.72	23.69	24.12	19.14	20.12	19.57	20.54	20.97
	6H	22.88	23.74	23.34	24.18	24.64	19.56	20.41	20.01	20.85	21.31
	8H	23.08	23.88	23.54	24.32	24.79	19.70	20.50	20.16	20.94	21.41
	12H	23.22	23.94	23.70	24.42	24.89	19.81	20.53	20.29	21.00	21.47
8H	4H	22.34	23.14	22.81	23.59	24.05	19.46	20.26	19.92	20.70	21.17
	6H	23.00	23.67	23.50	24.16	24.63	19.97	20.63	20.47	21.12	21.60
	8H	23.24	23.83	23.75	24.34	24.83	20.17	20.77	20.69	21.28	21.76
	12H	23.44	23.96	23.95	24.46	25.02	20.35	20.87	20.85	21.36	21.93
12H	4H	22.33	23.05	22.81	23.53	24.00	19.50	20.22	19.98	20.70	21.17
	6H	22.99	23.59	23.50	24.10	24.58	20.03	20.63	20.54	21.14	21.62
	8H	23.26	23.79	23.77	24.28	24.84	20.29	20.81	20.80	21.30	21.87