

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: P243312

Luminaire Tested: S123DRP-H560D940-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243312
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-49)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123DRP-H560D940-X4F0-XX-UDD-F-W
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

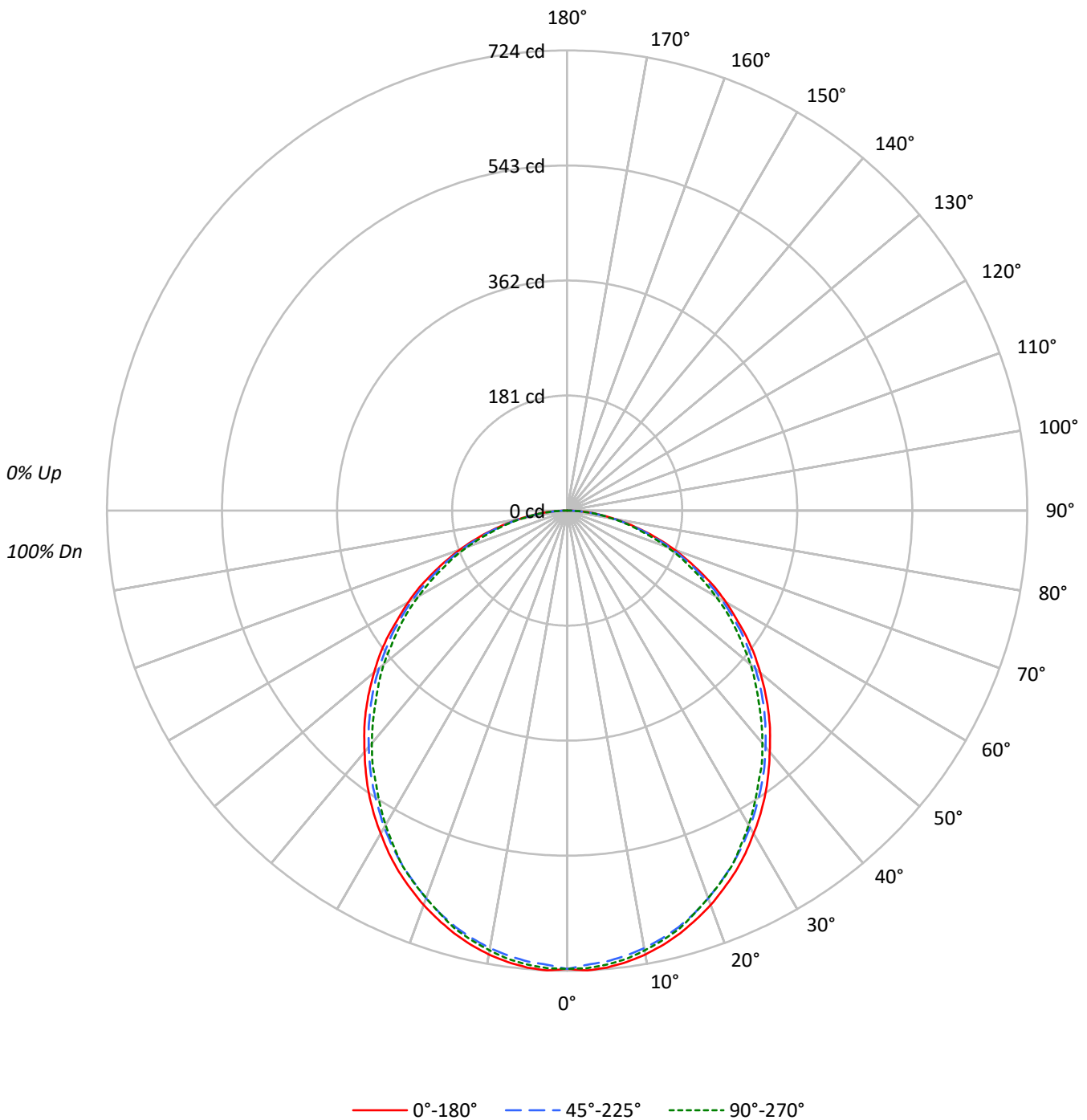
Lumens per Lamp: N/A
Luminaire Lumens: 1907.6 lumens
Efficiency: N/A
Efficacy: 110.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 17.2
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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102
1	109	104	100	96	106	102	98	94	97	94	91	94	91	89	90	88	86
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	75	72
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61
4	83	71	62	55	80	70	61	55	67	60	54	65	59	54	63	57	53
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32
9	57	44	35	30	56	43	35	30	42	35	30	41	34	29	40	34	29
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8741	8741	8741
5°	8781	8666	8724
10°	8729	8605	8649
15°	8639	8512	8550
20°	8520	8374	8366
25°	8380	8221	8229
30°	8213	8055	7996
35°	8050	7874	7758
40°	7845	7685	7563
45°	7683	7500	7306
50°	7477	7286	7107
55°	7261	7073	6834
60°	7004	6817	6543
65°	6700	6496	6224
70°	6361	6152	5901
75°	5901	5737	5428
80°	5312	5186	5019
85°	4965	4715	4548

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7683 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.0	3.6
10°-20°	192.4	10.1
20°-30°	284.8	14.9
30°-40°	334.1	17.5
40°-50°	337.7	17.7
50°-60°	298.7	15.7
60°-70°	224.3	11.8
70°-80°	129.3	6.8
80°-90°	38.3	2.0
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°	545.3	28.6
0°-40°	879.3	46.1
0°-60°	1515.7	79.5
0°-90°	1907.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1907.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	721	721	721	721	721	
5°	722	719	712	718	717	68
15°	688	685	678	683	681	194
25°	627	622	615	618	615	288
35°	544	539	532	530	524	340
45°	448	445	438	432	426	345
55°	344	341	335	328	323	307
65°	234	232	226	221	217	231
75°	126	125	122	119	116	134
85°	36	35	34	33	33	40
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	721.1	721.1	721.1	721.1	721.1
2.5°	724.1	721.7	715.2	721.7	720.5
5°	721.7	718.7	712.2	718.1	717.0
7.5°	716.4	713.4	706.3	712.8	711.6
10°	709.2	706.3	699.1	704.5	702.7
12.5°	699.7	696.7	689.6	693.8	692.6
15°	688.4	684.8	678.3	683.1	681.3
17.5°	674.7	671.8	664.6	670.6	665.2
20°	660.5	657.5	649.2	654.5	648.6
22.5°	643.8	640.3	631.9	635.5	632.5
25°	626.6	621.8	614.7	617.7	615.3
27.5°	607.6	602.8	595.7	596.9	592.7
30°	586.8	582.6	575.5	576.7	571.3
32.5°	566.0	562.4	553.5	553.5	548.1
35°	544.0	539.2	532.1	530.3	524.3
37.5°	520.2	516.0	509.5	506.5	502.9
40°	495.8	493.4	485.7	482.1	478.0
42.5°	472.6	468.5	461.9	457.2	452.4
45°	448.2	444.7	437.5	431.6	426.2
47.5°	422.7	419.7	412.6	406.0	401.9
50°	396.5	394.1	386.4	379.3	376.9
52.5°	371.0	368.0	360.3	353.7	349.0
55°	343.6	341.2	334.7	328.2	323.4
57.5°	314.5	314.5	307.3	301.4	297.8
60°	288.9	285.9	281.2	274.7	269.9
62.5°	262.2	260.4	253.8	247.3	243.7
65°	233.6	231.9	226.5	220.6	217.0
67.5°	205.7	205.1	200.3	195.6	193.2
70°	179.5	178.3	173.6	168.8	166.5
72.5°	152.8	151.6	147.4	143.3	140.3
75°	126.0	124.8	122.5	118.9	115.9
77.5°	99.9	99.9	96.9	95.7	94.5
80°	76.1	75.5	74.3	73.1	71.9
82.5°	54.7	54.1	52.9	52.3	52.3
85°	35.7	35.1	33.9	33.3	32.7
87.5°	18.4	17.2	16.6	15.5	14.9
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	18.98	20.61	19.35	20.92	21.24	18.67	20.30	19.04	20.61	20.93
	3H	20.78	22.25	21.16	22.58	22.94	20.43	21.90	20.81	22.22	22.58
	4H	21.46	22.84	21.86	23.19	23.57	21.08	22.46	21.48	22.81	23.18
	6H	21.96	23.24	22.37	23.60	23.99	21.58	22.86	21.99	23.23	23.62
	8H	22.12	23.35	22.55	23.74	24.14	21.75	22.97	22.17	23.36	23.76
	12H	22.25	23.42	22.68	23.80	24.23	21.87	23.04	22.30	23.43	23.85
4H	2H	19.57	20.96	19.97	21.31	21.68	19.33	20.71	19.73	21.06	21.44
	3H	21.60	22.76	22.01	23.16	23.56	21.30	22.46	21.71	22.86	23.26
	4H	22.41	23.46	22.84	23.87	24.31	22.08	23.13	22.51	23.55	23.98
	6H	23.04	23.96	23.49	24.40	24.85	22.71	23.63	23.17	24.07	24.53
	8H	23.26	24.12	23.72	24.56	25.02	22.93	23.79	23.39	24.23	24.70
	12H	23.43	24.20	23.91	24.68	25.15	23.10	23.87	23.58	24.35	24.82
8H	4H	22.70	23.56	23.16	24.01	24.47	22.42	23.28	22.88	23.72	24.18
	6H	23.46	24.17	23.95	24.66	25.14	23.17	23.89	23.66	24.38	24.85
	8H	23.75	24.40	24.26	24.90	25.39	23.47	24.11	23.98	24.62	25.10
	12H	24.01	24.58	24.52	25.07	25.63	23.72	24.29	24.22	24.78	25.34
12H	4H	22.73	23.51	23.21	23.98	24.45	22.46	23.23	22.93	23.70	24.17
	6H	23.51	24.16	24.02	24.66	25.15	23.24	23.88	23.75	24.39	24.87
	8H	23.87	24.44	24.38	24.93	25.49	23.60	24.16	24.10	24.65	25.22