

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: P242608

Luminaire Tested: S124DRP-S350D840-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242608
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-5)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DRP-S350D840-X4F0-XX-UDD-F-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

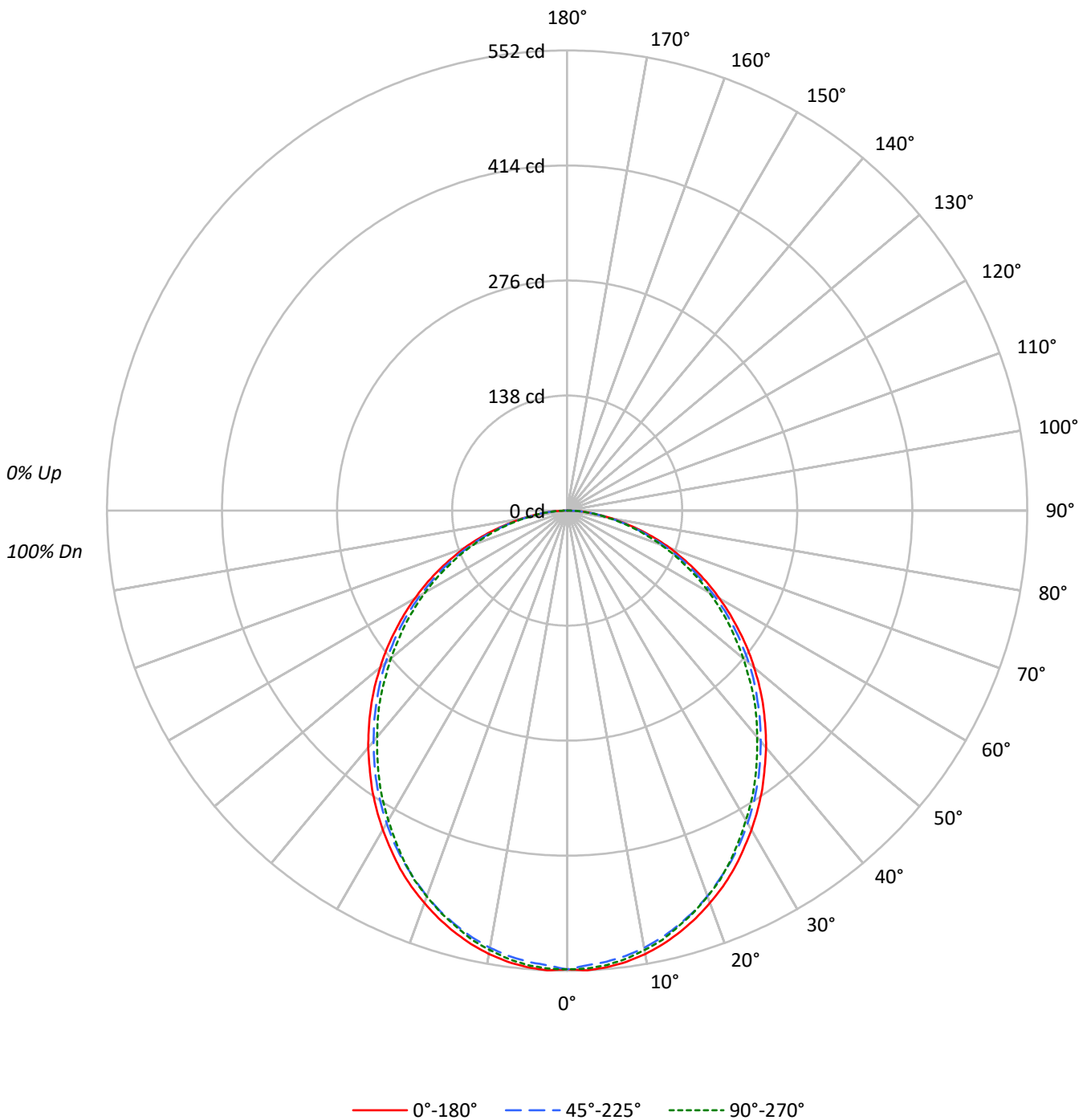
Lumens per Lamp: N/A
Luminaire Lumens: 1412.4 lumens
Efficiency: N/A
Efficacy: 121.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.29
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 11.6
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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84				84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	73	70				70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60				60
4	83	71	63	56	81	70	62	56	67	60	55	65	59	54	63	58	53	51				51
5	77	64	55	48	74	63	54	48	61	53	48	59	52	47	57	51	47	44				44
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39				39
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35				35
8	61	48	39	34	60	47	39	34	46	39	33	45	38	33	43	37	33	31				31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28				28
10	54	41	33	28	52	40	33	28	39	32	27	38	32	27	37	31	27	25				25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4892	4892	4892
5°	4906	4847	4883
10°	4875	4807	4832
15°	4817	4739	4751
20°	4738	4655	4659
25°	4649	4558	4545
30°	4540	4444	4403
35°	4426	4325	4268
40°	4308	4190	4113
45°	4185	4058	3980
50°	4049	3938	3817
55°	3902	3786	3662
60°	3755	3614	3504
65°	3588	3449	3311
70°	3405	3230	3106
75°	3118	2967	2892
80°	2774	2662	2595
85°	2427	2336	2295

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4185 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.9	3.7
10°-20°	146.1	10.3
20°-30°	215.1	15.2
30°-40°	250.0	17.7
40°-50°	250.0	17.7
50°-60°	218.6	15.5
60°-70°	162.3	11.5
70°-80°	92.1	6.5
80°-90°	26.4	1.9
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°	413.0	29.2
0°-40°	663.0	46.9
0°-60°	1131.6	80.1
0°-90°	1412.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1412.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	550	550	550	550	550	
5°	550	548	543	548	547	52
15°	523	522	515	518	516	147
25°	474	471	465	465	463	218
35°	408	405	399	396	393	255
45°	333	330	323	318	317	257
55°	252	250	244	239	236	226
65°	171	168	164	160	157	169
75°	91	89	86	85	84	96
85°	24	24	23	23	22	27
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	550.3	550.3	550.3	550.3	550.3
2.5°	552.0	550.7	545.9	550.3	549.8
5°	549.8	548.1	543.2	548.1	547.2
7.5°	545.9	544.1	538.8	542.8	542.3
10°	540.1	538.4	532.6	536.2	535.3
12.5°	532.6	530.9	524.7	528.7	527.4
15°	523.4	521.6	515.0	517.7	516.3
17.5°	512.8	510.6	504.4	506.2	505.3
20°	500.9	498.7	492.1	493.4	492.5
22.5°	488.1	485.0	478.4	481.1	479.3
25°	474.0	470.9	464.7	465.2	463.4
27.5°	458.1	455.0	449.3	448.4	446.2
30°	442.3	438.7	433.0	431.2	429.0
32.5°	425.5	422.4	416.2	414.0	411.8
35°	407.9	404.8	398.6	395.5	393.3
37.5°	389.3	386.7	380.1	377.0	373.9
40°	371.3	367.7	361.1	356.7	354.5
42.5°	351.9	350.1	342.6	337.3	336.0
45°	332.9	329.8	322.8	317.9	316.6
47.5°	313.1	310.9	304.2	299.0	295.4
50°	292.8	291.0	284.8	278.7	276.0
52.5°	272.9	270.7	264.1	258.8	255.3
55°	251.8	250.4	244.3	239.0	236.3
57.5°	231.9	230.6	224.4	219.1	216.5
60°	211.2	209.0	203.3	199.3	197.1
62.5°	190.9	189.2	183.0	179.5	177.3
65°	170.6	168.4	164.0	159.6	157.4
67.5°	149.9	148.2	143.7	139.3	138.9
70°	131.0	127.9	124.3	120.8	119.5
72.5°	110.7	107.6	104.9	102.3	101.0
75°	90.8	88.6	86.4	84.7	84.2
77.5°	71.4	70.5	68.3	67.9	66.6
80°	54.2	52.9	52.0	51.1	50.7
82.5°	37.5	37.0	37.0	36.6	36.2
85°	23.8	23.8	22.9	22.9	22.5
87.5°	11.5	11.0	10.6	10.6	10.6
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	16.81	18.43	17.18	18.74	19.06	16.44	18.05	16.80	18.37	18.68
	3H	18.58	20.03	18.95	20.36	20.72	18.15	19.61	18.53	19.93	20.29
	4H	19.23	20.60	19.63	20.95	21.33	18.79	20.17	19.19	20.51	20.89
	6H	19.70	20.98	20.11	21.34	21.73	19.27	20.54	19.68	20.91	21.30
	8H	19.85	21.07	20.28	21.46	21.86	19.43	20.64	19.85	21.03	21.43
	12H	19.96	21.12	20.39	21.50	21.93	19.54	20.70	19.97	21.08	21.51
4H	2H	17.38	18.76	17.78	19.11	19.48	17.09	18.46	17.48	18.81	19.18
	3H	19.37	20.52	19.77	20.91	21.31	19.01	20.16	19.42	20.56	20.96
	4H	20.15	21.19	20.58	21.60	22.04	19.78	20.82	20.21	21.24	21.67
	6H	20.75	21.66	21.20	22.10	22.56	20.39	21.29	20.84	21.74	22.19
	8H	20.95	21.80	21.41	22.24	22.71	20.59	21.44	21.05	21.88	22.35
	12H	21.10	21.86	21.58	22.34	22.81	20.75	21.51	21.23	21.99	22.45
8H	4H	20.42	21.27	20.88	21.72	22.18	20.10	20.95	20.56	21.39	21.86
	6H	21.14	21.85	21.64	22.34	22.82	20.83	21.53	21.32	22.02	22.50
	8H	21.42	22.05	21.92	22.56	23.04	21.11	21.74	21.62	22.25	22.73
	12H	21.64	22.21	22.15	22.70	23.26	21.34	21.90	21.85	22.39	22.95
12H	4H	20.45	21.22	20.93	21.69	22.16	20.14	20.90	20.62	21.38	21.85
	6H	21.19	21.83	21.70	22.34	22.82	20.89	21.52	21.39	22.03	22.51
	8H	21.52	22.08	22.03	22.57	23.13	21.23	21.79	21.73	22.28	22.84