

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: P242613

Luminaire Tested: S124DRP-S350D930-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242613
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-S350D930-X4F0-XX-UDD-F-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

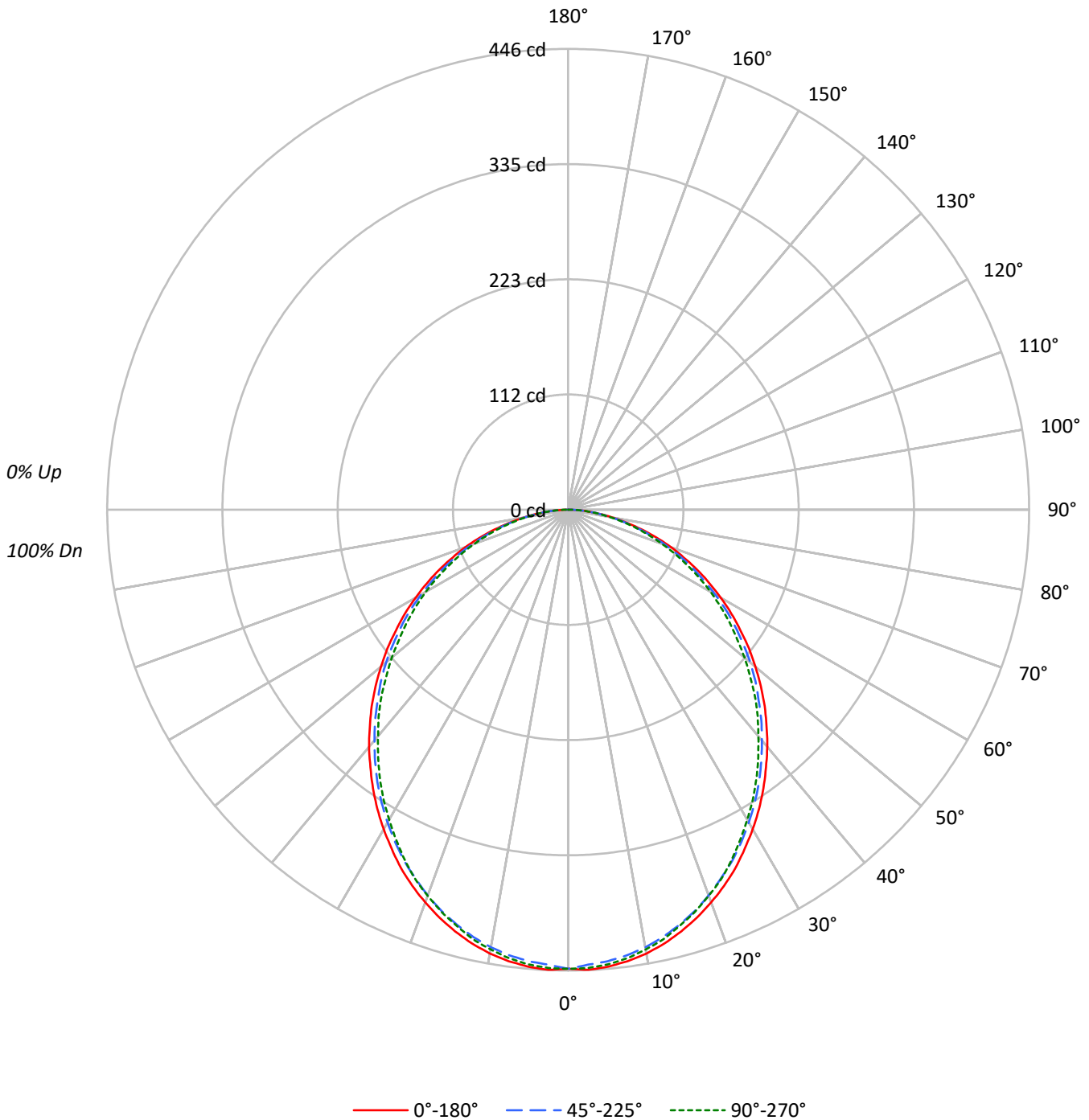
Lumens per Lamp: N/A
Luminaire Lumens: 1140.3 lumens
Efficiency: N/A
Efficacy: 98.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.29
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 11.6
Input Voltage (V): 120
Input Current (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	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°	3949	3949	3949
5°	3961	3914	3942
10°	3936	3881	3901
15°	3888	3826	3837
20°	3825	3758	3761
25°	3753	3680	3669
30°	3664	3588	3555
35°	3573	3492	3445
40°	3478	3382	3321
45°	3379	3276	3213
50°	3269	3181	3081
55°	3151	3056	2957
60°	3031	2917	2828
65°	2898	2785	2673
70°	2747	2609	2508
75°	2517	2397	2335
80°	2242	2150	2094
85°	1958	1887	1856

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3379 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	41.9	3.7
10°-20°	118.0	10.3
20°-30°	173.6	15.2
30°-40°	201.8	17.7
40°-50°	201.8	17.7
50°-60°	176.5	15.5
60°-70°	131.0	11.5
70°-80°	74.4	6.5
80°-90°	21.3	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°	333.5	29.2
0°-40°	535.3	46.9
0°-60°	913.6	80.1
0°-90°	1140.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1140.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	444	444	444	444	444	
5°	444	442	439	442	442	42
15°	422	421	416	418	417	119
25°	383	380	375	376	374	176
35°	329	327	322	319	318	206
45°	269	266	261	257	256	207
55°	203	202	197	193	191	182
65°	138	136	132	129	127	136
75°	73	72	70	68	68	78
85°	19	19	18	18	18	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	444.3	444.3	444.3	444.3	444.3
2.5°	445.7	444.6	440.7	444.3	443.9
5°	443.9	442.5	438.6	442.5	441.8
7.5°	440.7	439.3	435.0	438.2	437.9
10°	436.1	434.7	430.0	432.9	432.2
12.5°	430.0	428.6	423.6	426.8	425.8
15°	422.5	421.1	415.8	417.9	416.9
17.5°	414.0	412.2	407.2	408.7	408.0
20°	404.4	402.6	397.3	398.3	397.6
22.5°	394.1	391.6	386.2	388.4	386.9
25°	382.7	380.2	375.2	375.6	374.1
27.5°	369.9	367.4	362.7	362.0	360.3
30°	357.0	354.2	349.6	348.1	346.4
32.5°	343.5	341.0	336.0	334.3	332.5
35°	329.3	326.8	321.8	319.3	317.5
37.5°	314.3	312.2	306.9	304.4	301.9
40°	299.7	296.9	291.5	288.0	286.2
42.5°	284.1	282.6	276.6	272.3	271.3
45°	268.8	266.3	260.6	256.7	255.6
47.5°	252.7	251.0	245.6	241.4	238.5
50°	236.4	234.9	230.0	225.0	222.8
52.5°	220.4	218.6	213.2	209.0	206.1
55°	203.3	202.2	197.2	192.9	190.8
57.5°	187.2	186.2	181.2	176.9	174.8
60°	170.5	168.7	164.1	160.9	159.1
62.5°	154.1	152.7	147.7	144.9	143.1
65°	137.8	136.0	132.4	128.9	127.1
67.5°	121.0	119.6	116.0	112.5	112.1
70°	105.7	103.2	100.4	97.5	96.5
72.5°	89.4	86.9	84.7	82.6	81.5
75°	73.3	71.6	69.8	68.3	68.0
77.5°	57.7	57.0	55.2	54.8	53.8
80°	43.8	42.7	42.0	41.3	40.9
82.5°	30.3	29.9	29.9	29.5	29.2
85°	19.2	19.2	18.5	18.5	18.2
87.5°	9.3	8.9	8.5	8.5	8.5
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	16.07	17.68	16.44	18.00	18.31	15.69	17.31	16.06	17.62	17.94
	3H	17.83	19.29	18.21	19.62	19.98	17.41	18.86	17.78	19.19	19.55
	4H	18.49	19.86	18.88	20.21	20.58	18.05	19.42	18.45	19.77	20.15
	6H	18.96	20.23	19.37	20.60	20.99	18.53	19.80	18.94	20.16	20.55
	8H	19.11	20.33	19.54	20.71	21.11	18.68	19.90	19.11	20.29	20.69
	12H	19.22	20.38	19.65	20.76	21.19	18.79	19.96	19.22	20.34	20.77
4H	2H	16.64	18.01	17.04	18.36	18.74	16.34	17.72	16.74	18.06	18.44
	3H	18.62	19.77	19.03	20.17	20.57	18.27	19.42	18.68	19.82	20.22
	4H	19.40	20.44	19.83	20.86	21.29	19.04	20.08	19.47	20.49	20.93
	6H	20.01	20.92	20.46	21.36	21.81	19.64	20.55	20.10	20.99	21.45
	8H	20.21	21.06	20.67	21.50	21.96	19.85	20.70	20.31	21.14	21.61
	12H	20.36	21.12	20.84	21.60	22.07	20.00	20.77	20.48	21.24	21.71
8H	4H	19.68	20.53	20.14	20.97	21.44	19.36	20.21	19.82	20.65	21.12
	6H	20.40	21.11	20.90	21.60	22.07	20.08	20.79	20.58	21.28	21.75
	8H	20.67	21.31	21.18	21.81	22.30	20.36	21.00	20.87	21.50	21.99
	12H	20.90	21.46	21.41	21.95	22.51	20.59	21.16	21.10	21.65	22.21
12H	4H	19.71	20.47	20.19	20.95	21.42	19.39	20.16	19.87	20.63	21.10
	6H	20.45	21.09	20.96	21.59	22.08	20.14	20.78	20.65	21.28	21.77
	8H	20.78	21.34	21.29	21.83	22.39	20.48	21.04	20.99	21.53	22.09