

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: P243579

Luminaire Tested: S124RDRP-H1020D930-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243579
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-65)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124RDRP-H1020D930-X4F0-XX-UDD-F-W
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

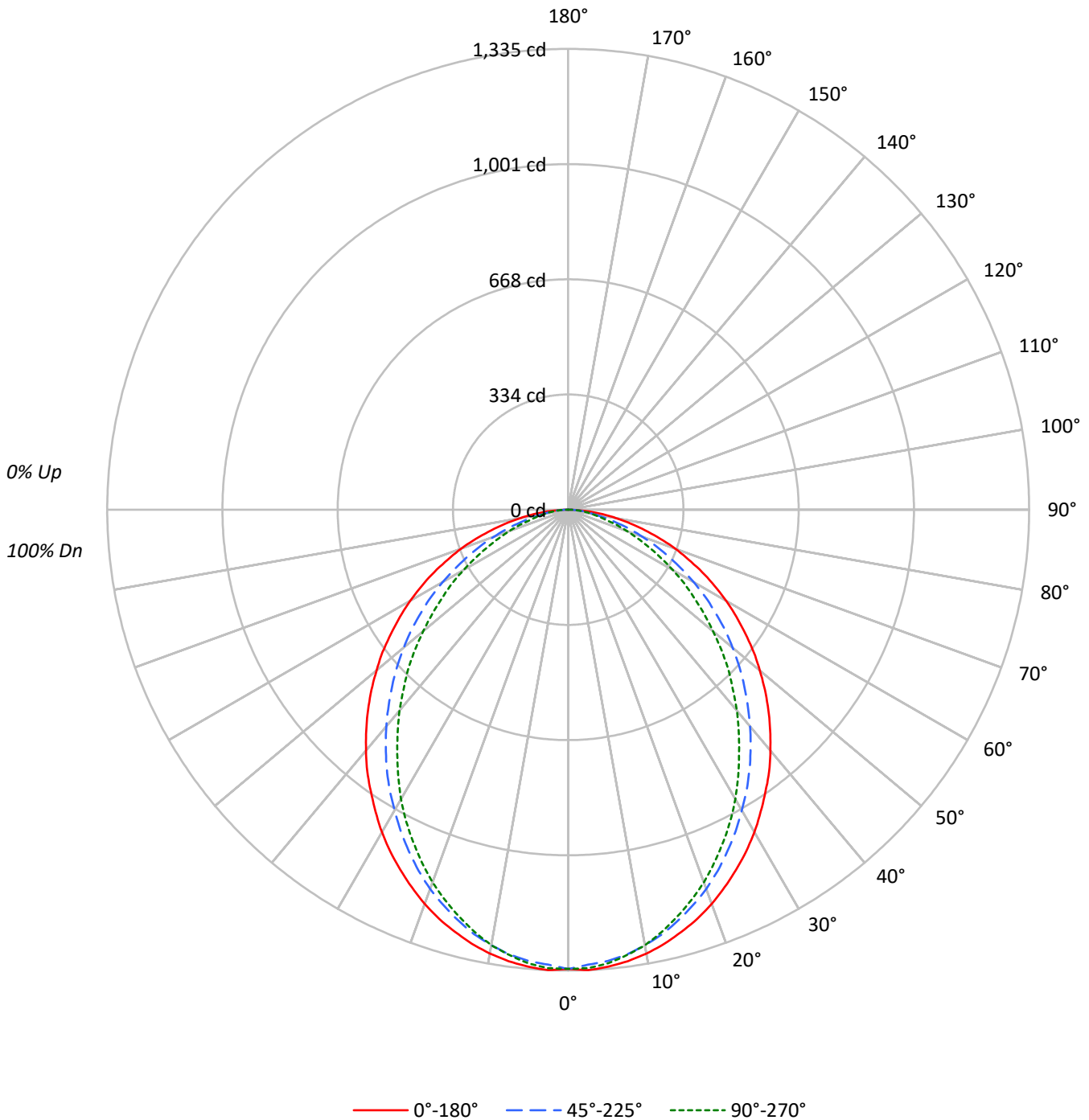
Lumens per Lamp: N/A
Luminaire Lumens: 3136.7 lumens
Efficiency: N/A
Efficacy: 99.6 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.1 / 1.25
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 31.5
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	109	105	101	97	107	103	99	96	98	95	93	95	92	90	91	89	87	85
2	100	92	86	80	97	90	84	79	87	82	78	84	79	76	81	77	74	72
3	92	82	74	68	89	80	73	67	77	71	66	74	69	65	72	67	64	61
4	84	73	64	58	82	71	64	57	69	62	57	67	61	56	64	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	44	55	48	43	53	47	43	41
7	67	54	45	39	65	53	45	39	51	44	39	50	43	39	49	43	38	36
8	62	49	41	35	61	49	41	35	47	40	35	46	39	35	45	39	34	33
9	58	45	37	32	57	45	37	32	44	37	32	42	36	31	41	36	31	30
10	55	42	34	29	54	41	34	29	40	34	29	39	33	29	39	33	29	27

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11824	11824	11824
5°	11860	11711	11773
10°	11785	11563	11563
15°	11654	11337	11230
20°	11496	11060	10865
25°	11285	10707	10418
30°	11074	10318	9936
35°	10812	9939	9364
40°	10571	9512	8816
45°	10304	9059	8244
50°	10019	8593	7575
55°	9706	8063	6907
60°	9406	7452	6213
65°	9002	6731	5431
70°	8574	5944	4720
75°	7923	4956	3843
80°	7238	3870	3517
85°	6405	3702	3508

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10304 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	125.1	4.0
10°-20°	349.4	11.1
20°-30°	506.6	16.2
30°-40°	577.4	18.4
40°-50°	561.8	17.9
50°-60°	471.9	15.0
60°-70°	328.8	10.5
70°-80°	169.8	5.4
80°-90°	45.9	1.5
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°	981.1	31.3
0°-40°	1558.5	49.7
0°-60°	2592.3	82.6
0°-90°	3136.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3136.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1330	1330	1330	1330	1330	
5°	1329	1325	1312	1322	1319	126
15°	1266	1257	1232	1230	1220	357
25°	1151	1129	1092	1076	1062	530
35°	996	966	916	882	863	624
45°	820	780	721	674	656	632
55°	626	586	520	467	446	561
65°	428	387	320	274	258	424
75°	231	195	144	121	112	246
85°	63	40	36	34	34	72
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1330.2	1330.2	1330.2	1330.2	1330.2
2.5°	1335.1	1331.2	1319.4	1330.2	1329.2
5°	1329.2	1325.3	1312.5	1322.4	1319.4
7.5°	1319.4	1314.5	1299.8	1306.6	1301.7
10°	1305.7	1300.8	1281.1	1286.0	1281.1
12.5°	1288.0	1281.1	1259.5	1260.5	1252.7
15°	1266.4	1256.6	1232.0	1230.1	1220.3
17.5°	1242.8	1230.1	1201.6	1196.7	1185.9
20°	1215.3	1199.6	1169.2	1158.4	1148.6
22.5°	1183.9	1165.3	1131.9	1119.1	1106.4
25°	1150.6	1129.0	1091.7	1075.9	1062.2
27.5°	1116.2	1090.7	1050.4	1030.8	1017.0
30°	1078.9	1049.4	1005.3	982.7	968.0
32.5°	1037.7	1008.2	962.1	934.6	915.9
35°	996.4	966.0	915.9	881.6	862.9
37.5°	956.2	921.8	867.8	832.5	810.9
40°	911.0	874.7	819.7	779.5	759.8
42.5°	865.9	828.6	769.7	727.4	705.8
45°	819.7	780.5	720.6	674.4	655.8
47.5°	772.6	733.3	671.5	623.4	601.8
50°	724.5	685.2	621.4	568.4	547.8
52.5°	677.4	636.1	572.3	518.3	496.7
55°	626.3	586.1	520.3	467.3	445.7
57.5°	577.2	535.0	471.2	417.2	399.6
60°	529.1	486.9	419.2	367.2	349.5
62.5°	478.1	435.9	369.1	319.1	303.3
65°	428.0	386.8	320.0	273.9	258.2
67.5°	377.0	339.7	274.9	230.7	217.9
70°	329.9	287.6	228.7	190.4	181.6
72.5°	279.8	242.5	185.5	154.1	147.3
75°	230.7	195.4	144.3	120.7	111.9
77.5°	185.5	151.2	109.0	89.3	89.3
80°	141.4	110.9	75.6	70.7	68.7
82.5°	100.1	71.7	56.0	52.0	51.0
85°	62.8	40.2	36.3	34.4	34.4
87.5°	30.4	18.7	18.7	17.7	17.7
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	20.03	21.61	20.40	21.92	22.24	18.14	19.71	18.50	20.03	20.34
	3H	21.85	23.27	22.23	23.59	23.96	19.40	20.82	19.78	21.14	21.51
	4H	22.53	23.87	22.93	24.21	24.59	19.80	21.13	20.19	21.48	21.85
	6H	23.05	24.28	23.46	24.65	25.04	20.07	21.31	20.48	21.67	22.06
	8H	23.22	24.39	23.64	24.78	25.18	20.17	21.35	20.60	21.74	22.14
	12H	23.33	24.46	23.76	24.84	25.27	20.25	21.38	20.68	21.76	22.19
4H	2H	20.39	21.72	20.78	22.07	22.44	18.84	20.17	19.24	20.52	20.90
	3H	22.40	23.51	22.81	23.91	24.31	20.29	21.40	20.70	21.80	22.20
	4H	23.21	24.22	23.65	24.63	25.07	20.77	21.77	21.20	22.18	22.62
	6H	23.86	24.73	24.31	25.17	25.63	21.13	22.01	21.59	22.45	22.91
	8H	24.07	24.89	24.53	25.33	25.80	21.27	22.09	21.73	22.53	23.00
	12H	24.24	24.97	24.72	25.45	25.92	21.39	22.12	21.87	22.60	23.07
8H	4H	23.32	24.14	23.78	24.58	25.05	21.10	21.92	21.56	22.36	22.83
	6H	24.04	24.72	24.54	25.21	25.69	21.55	22.23	22.05	22.72	23.19
	8H	24.32	24.92	24.83	25.43	25.92	21.74	22.35	22.26	22.86	23.35
	12H	24.55	25.08	25.05	25.57	26.14	21.93	22.47	22.44	22.96	23.52
12H	4H	23.31	24.04	23.79	24.52	24.99	21.15	21.88	21.63	22.35	22.82
	6H	24.04	24.65	24.55	25.15	25.64	21.61	22.22	22.12	22.73	23.22
	8H	24.35	24.89	24.86	25.38	25.94	21.86	22.40	22.37	22.89	23.45