

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: P243545

Luminaire Tested: S124DRP-H1020D930-X4F0-XX-UDD-D-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243545
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-55)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DRP-H1020D930-X4F0-XX-UDD-D-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN DROP DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

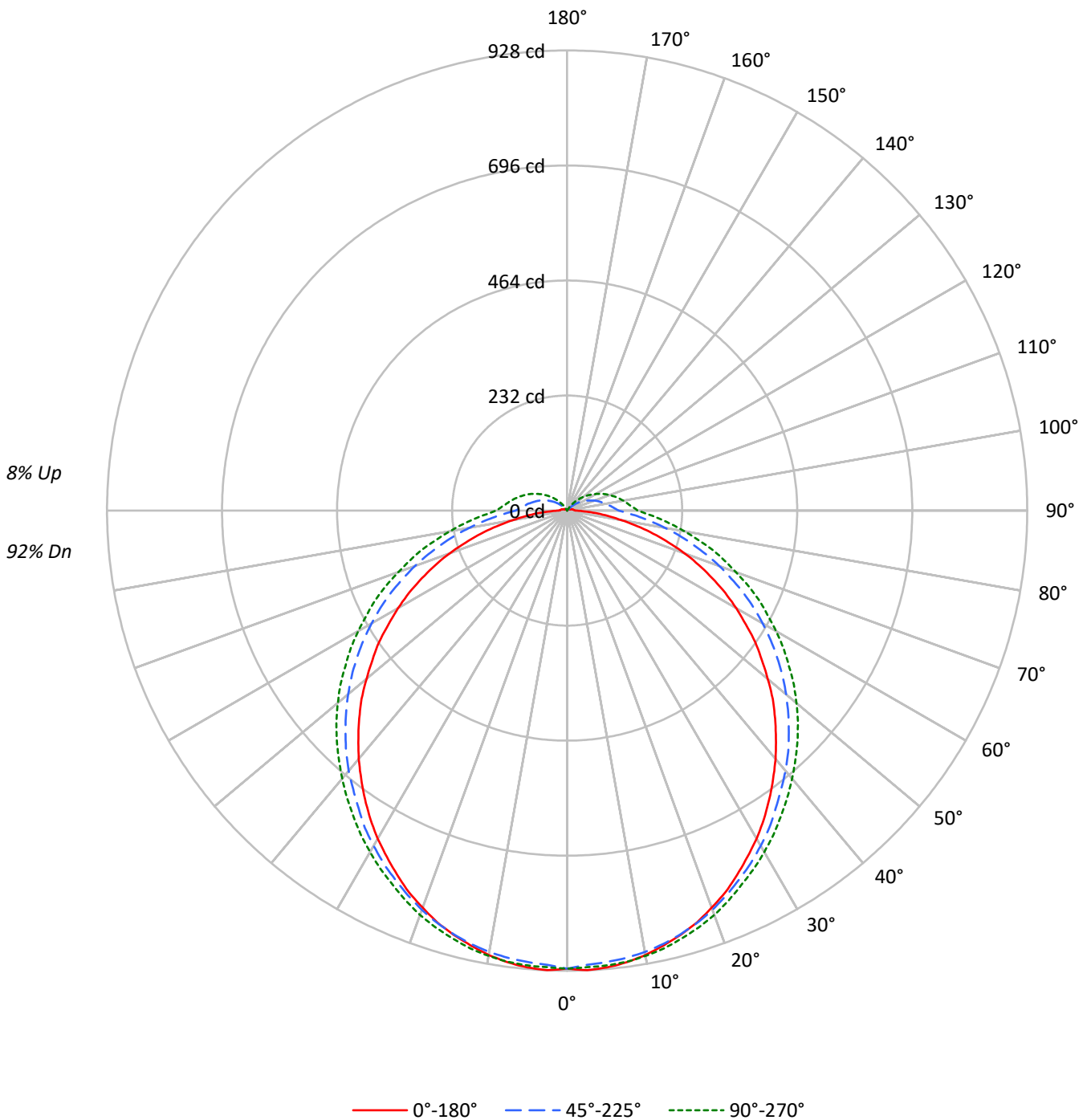
Lumens per Lamp: N/A
Luminaire Lumens: 3157.7 lumens
Efficiency: N/A
Efficacy: 100.2 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.88' x H: 0.08')
CIE Type: Direct

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	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	92
1	105	100	95	91	102	97	93	89	91	88	84	86	83	80	81	79	77	74
2	95	86	79	73	92	84	77	71	79	73	68	74	70	66	70	67	63	60
3	86	75	67	60	83	73	65	59	69	62	57	65	60	55	62	57	53	50
4	79	66	57	50	76	65	56	49	61	54	48	58	52	46	55	49	45	43
5	72	59	50	43	70	58	49	42	55	47	41	52	45	40	49	43	39	37
6	67	53	44	37	64	52	43	37	49	42	36	47	40	35	44	39	34	32
7	62	48	39	33	60	47	38	32	45	37	32	43	36	31	41	35	30	28
8	58	44	35	29	56	43	35	29	41	33	28	39	32	28	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	29	24	22
10	50	37	29	24	49	36	29	23	35	28	23	33	27	22	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8212	8212	8212
5°	8236	8013	8029
10°	8183	7877	7862
15°	8102	7718	7672
20°	7998	7547	7483
25°	7874	7351	7262
30°	7744	7168	7073
35°	7599	6964	6876
40°	7452	6790	6692
45°	7296	6602	6518
50°	7122	6412	6335
55°	6967	6211	6126
60°	6748	5985	5921
65°	6494	5733	5714
70°	6191	5447	5419
75°	5713	5094	5205
80°	5060	4757	4900
85°	4585	4482	4724

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 7296 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.5	2.8
10°-20°	250.8	7.9
20°-30°	379.6	12.0
30°-40°	459.6	14.6
40°-50°	486.2	15.4
50°-60°	458.0	14.5
60°-70°	380.6	12.1
70°-80°	267.5	8.5
80°-90°	150.7	4.8
90°-100°	89.4	2.8
100°-110°	66.2	2.1
110°-120°	44.2	1.4
120°-130°	24.9	0.8
130°-140°	10.7	0.3
140°-150°	2.1	0.1
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	717.8	22.7
0°-40°	1177.5	37.3
0°-60°	2121.6	67.2
0°-90°	2920.3	92.5
90°-120°	199.7	6.3
90°-150°	237.4	7.5
90°-180°	237.0	7.5
0°-180°	3157.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	924	924	924	924	924	
5°	925	921	914	922	921	88
15°	886	888	884	894	893	250
25°	811	818	821	832	832	374
35°	711	722	733	749	752	445
45°	593	612	632	651	657	458
55°	463	488	517	540	546	413
65°	323	355	392	416	427	320
75°	180	218	261	291	302	190
85°	56	99	146	178	188	58
90°	17	58	104	132	142	11
95°	14	47	90	119	127	11
105°	10	30	69	94	103	10
115°	7	16	48	71	80	7
125°	4	3	28	48	55	4
135°	2	2	9	26	31	2
145°	1	0	0	6	10	1
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	923.8	923.8	923.8	923.8	923.8
2.5°	927.7	924.8	916.9	922.8	921.8
5°	924.8	920.8	914.0	921.8	920.8
7.5°	918.9	915.9	910.0	918.9	917.9
10°	910.0	908.1	904.1	912.0	912.0
12.5°	898.3	898.3	895.3	904.1	904.1
15°	885.5	887.5	884.5	894.3	893.3
17.5°	870.8	872.7	871.8	881.6	881.6
20°	852.1	855.1	857.0	867.8	867.8
22.5°	833.5	837.4	839.4	851.1	851.1
25°	810.9	817.8	820.7	832.5	832.5
27.5°	787.3	796.2	802.0	812.8	814.8
30°	763.8	773.6	780.5	792.2	795.2
32.5°	738.2	748.1	758.9	770.6	774.6
35°	710.8	722.5	733.3	749.0	752.0
37.5°	682.3	696.0	708.8	725.5	729.4
40°	653.8	670.5	685.2	700.9	705.8
42.5°	623.4	640.1	659.7	676.4	681.3
45°	592.9	611.6	632.2	650.9	656.8
47.5°	562.5	582.1	604.7	624.4	631.2
50°	528.2	549.8	576.3	595.9	603.7
52.5°	494.8	518.3	547.8	567.4	576.3
55°	463.4	487.9	517.4	539.9	545.8
57.5°	427.0	454.5	486.9	511.5	517.4
60°	393.7	421.1	455.5	480.1	486.9
62.5°	359.3	388.8	424.1	448.6	455.5
65°	323.0	355.4	391.7	416.2	427.0
67.5°	287.6	320.0	358.3	385.8	394.6
70°	252.3	285.7	326.9	354.4	361.3
72.5°	215.0	251.3	293.5	322.0	331.8
75°	179.7	217.9	261.1	290.6	302.4
77.5°	145.3	185.5	230.7	261.1	269.0
80°	110.9	155.1	200.3	230.7	240.5
82.5°	83.4	124.7	171.8	204.2	212.0
85°	56.0	99.2	146.3	177.7	187.5
87.5°	33.4	77.6	122.7	152.2	162.0
90°	16.7	57.9	104.1	132.5	142.3
92.5°	14.7	52.0	96.2	124.7	134.5
95°	13.7	47.1	90.3	118.8	126.6
97.5°	12.8	43.2	84.4	111.9	120.7
100°	11.8	38.3	79.5	106.0	114.9
102.5°	10.8	34.4	73.6	100.1	109.0
105°	9.8	30.4	68.7	94.2	103.1
107.5°	8.8	26.5	63.8	88.4	97.2
110°	7.9	22.6	58.9	82.5	91.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	6.9	19.6	53.0	76.6	85.4
115°	6.9	15.7	48.1	70.7	79.5
117.5°	5.9	11.8	43.2	64.8	72.6
120°	5.9	8.8	38.3	58.9	66.8
122.5°	4.9	5.9	33.4	54.0	60.9
125°	3.9	2.9	28.5	48.1	55.0
127.5°	3.9	2.9	23.6	42.2	49.1
130°	2.9	2.9	18.7	36.3	43.2
132.5°	2.9	2.0	13.7	31.4	37.3
135°	2.0	2.0	8.8	25.5	31.4
137.5°	2.0	1.0	5.9	20.6	26.5
140°	2.0	1.0	2.0	15.7	20.6
142.5°	1.0	1.0	0.0	10.8	14.7
145°	1.0	0.0	0.0	5.9	9.8
147.5°	1.0	0.0	0.0	1.0	4.9
150°	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0
180°	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	17.10	18.63	17.58	19.10	19.59	18.69	20.21	19.16	20.68	21.17
	3H	18.75	20.14	19.24	20.62	21.16	21.00	22.39	21.49	22.86	23.40
	4H	19.33	20.64	19.84	21.14	21.69	22.07	23.38	22.58	23.88	24.43
	6H	19.71	20.93	20.23	21.44	22.01	23.11	24.34	23.64	24.85	25.41
	8H	19.81	20.99	20.35	21.52	22.09	23.63	24.80	24.16	25.33	25.91
	12H	19.88	21.00	20.42	21.53	22.13	24.18	25.31	24.72	25.83	26.43
4H	2H	17.96	19.28	18.47	19.77	20.32	19.19	20.51	19.70	21.00	21.55
	3H	19.85	20.97	20.37	21.51	22.08	21.72	22.84	22.24	23.38	23.95
	4H	20.56	21.59	21.10	22.13	22.74	22.95	23.97	23.49	24.52	25.12
	6H	21.08	21.98	21.64	22.55	23.17	24.17	25.07	24.73	25.64	26.26
	8H	21.23	22.08	21.80	22.65	23.29	24.78	25.63	25.35	26.20	26.83
	12H	21.34	22.11	21.93	22.71	23.34	25.44	26.21	26.03	26.81	27.45
8H	4H	21.14	21.99	21.71	22.56	23.19	23.20	24.05	23.77	24.62	25.25
	6H	21.83	22.55	22.44	23.17	23.80	24.58	25.30	25.19	25.92	26.55
	8H	22.09	22.73	22.70	23.36	24.01	25.32	25.97	25.94	26.59	27.24
	12H	22.27	22.85	22.89	23.46	24.18	26.15	26.73	26.76	27.34	28.06
12H	4H	21.28	22.05	21.87	22.65	23.28	23.22	23.99	23.81	24.59	25.23
	6H	22.05	22.70	22.66	23.32	23.97	24.63	25.28	25.25	25.91	26.56
	8H	22.38	22.96	23.00	23.57	24.29	25.44	26.02	26.05	26.63	27.35