

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: P243476

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P243476
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-84)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124DRP-H1020D930-X4F0-XX-UDD-F-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

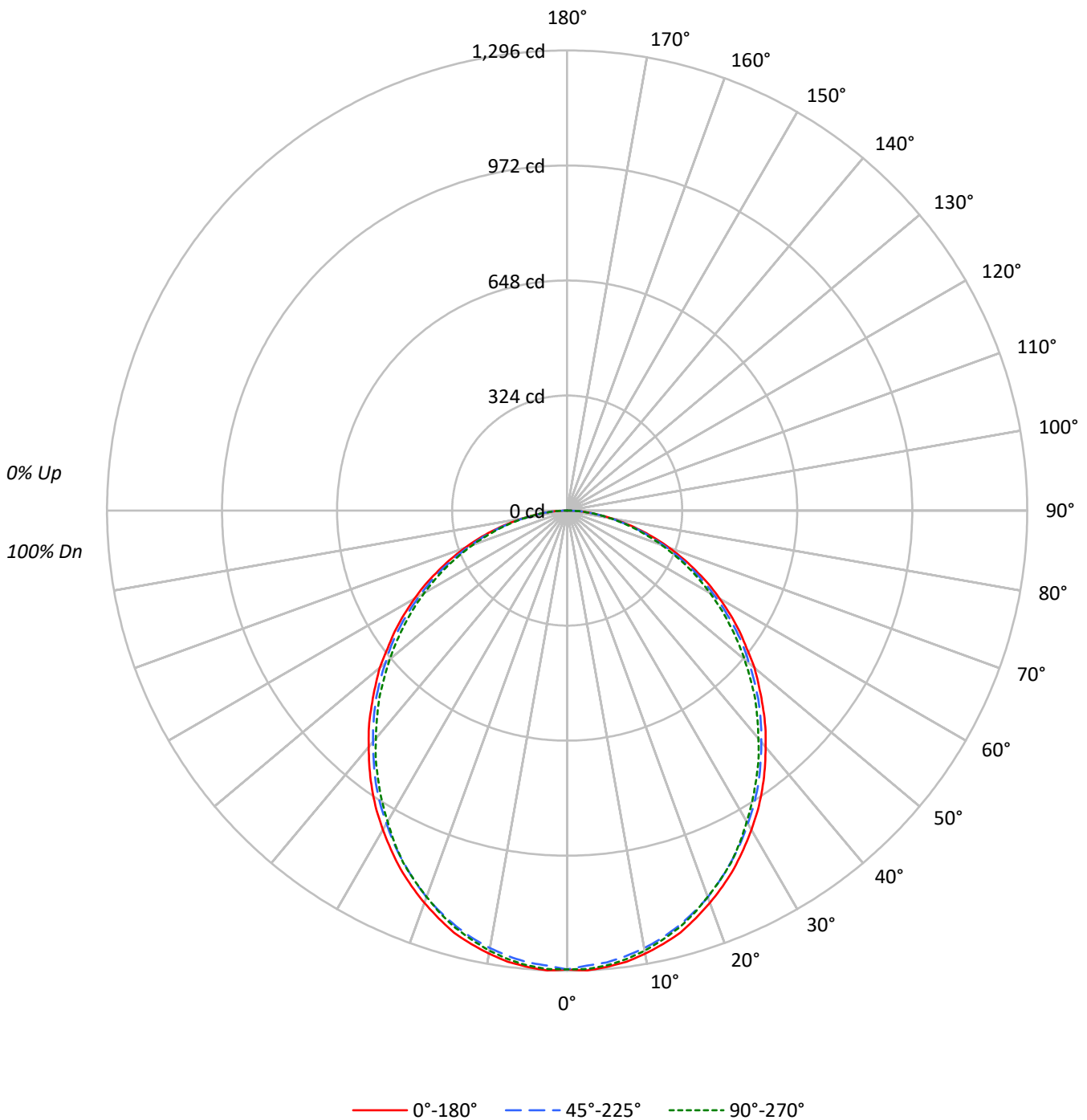
Lumens per Lamp: N/A
Luminaire Lumens: 3326.6 lumens
Efficiency: N/A
Efficacy: 105.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P243476

CATALOG NUMBER: S124DRP-H1020D930-X4F0-XX-UDD-F-W

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	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	46	41	52	46	41	39					39			
7	66	52	44	38	64	51	43	37	50	43	37	48	42	37	47	41	37	35					35			
8	61	48	39	34	60	47	39	33	46	38	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	27	39	32	27	38	32	27	37	31	27	25					25			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11486	11486	11486
5°	11511	11399	11474
10°	11436	11293	11360
15°	11330	11147	11195
20°	11120	10961	10950
25°	10910	10714	10725
30°	10652	10447	10382
35°	10395	10188	10064
40°	10089	9870	9724
45°	9794	9595	9411
50°	9524	9247	9015
55°	9174	8930	8652
60°	8823	8524	8261
65°	8403	8117	7852
70°	7953	7597	7350
75°	7329	7041	6824
80°	6460	6353	6189
85°	5681	5681	5579

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9794 cd/sqm



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CATALOG NUMBER: S124DRP-H1020D930-X4F0-XX-UDD-F-W

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	121.8	3.7
10°-20°	343.5	10.3
20°-30°	505.9	15.2
30°-40°	588.5	17.7
40°-50°	588.8	17.7
50°-60°	514.9	15.5
60°-70°	382.5	11.5
70°-80°	217.9	6.5
80°-90°	62.8	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°	971.2	29.2
0°-40°	1559.7	46.9
0°-60°	2663.5	80.1
0°-90°	3326.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3326.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1292	1292	1292	1292	1292	
5°	1290	1288	1278	1287	1286	122
15°	1231	1225	1211	1219	1216	346
25°	1112	1107	1092	1096	1094	512
35°	958	949	939	930	927	599
45°	779	776	763	752	749	602
55°	592	588	576	564	558	529
65°	400	396	386	378	373	397
75°	213	209	205	201	199	226
85°	56	55	56	54	55	64
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1292.2	1292.2	1292.2	1292.2	1292.2
2.5°	1296.4	1293.3	1282.7	1293.3	1292.2
5°	1290.1	1288.0	1277.5	1287.0	1285.9
7.5°	1281.7	1277.5	1265.9	1275.4	1274.3
10°	1267.0	1263.8	1251.2	1260.7	1258.6
12.5°	1250.2	1247.0	1233.3	1240.7	1238.6
15°	1231.2	1224.9	1211.3	1218.6	1216.5
17.5°	1203.9	1199.7	1186.0	1192.3	1189.2
20°	1175.5	1170.2	1158.7	1159.7	1157.6
22.5°	1145.0	1139.8	1126.1	1130.3	1126.1
25°	1112.4	1107.2	1092.4	1095.6	1093.5
27.5°	1075.6	1070.4	1056.7	1057.7	1053.5
30°	1037.8	1031.5	1017.8	1016.7	1011.5
32.5°	999.9	993.6	979.9	975.7	970.5
35°	957.9	949.4	938.9	930.5	927.4
37.5°	914.7	910.5	894.8	889.5	885.3
40°	869.5	865.3	850.6	843.2	838.0
42.5°	826.4	821.2	807.5	797.0	792.8
45°	779.1	776.0	763.3	751.8	748.6
47.5°	732.8	731.8	716.0	704.5	699.2
50°	688.7	682.4	668.7	658.2	651.9
52.5°	637.2	636.1	624.6	610.9	605.6
55°	592.0	587.8	576.2	563.6	558.3
57.5°	544.6	542.5	527.8	517.3	512.0
60°	496.3	492.1	479.5	470.0	464.7
62.5°	450.0	444.8	433.2	423.7	418.5
65°	399.5	396.4	385.9	377.5	373.3
67.5°	352.2	348.0	337.5	330.1	325.9
70°	306.0	299.7	292.3	286.0	282.8
72.5°	259.7	254.4	248.1	243.9	239.7
75°	213.4	209.2	205.0	200.8	198.7
77.5°	169.3	165.1	163.0	161.9	159.8
80°	126.2	124.1	124.1	123.0	120.9
82.5°	89.4	87.3	87.3	87.3	86.2
85°	55.7	54.7	55.7	53.6	54.7
87.5°	26.3	26.3	27.3	26.3	27.3
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	19.78	21.39	20.14	21.71	22.02	19.43	21.05	19.80	21.36	21.67
	3H	21.53	22.99	21.91	23.32	23.68	21.14	22.60	21.52	22.93	23.29
	4H	22.19	23.56	22.59	23.91	24.29	21.79	23.17	22.19	23.51	23.89
	6H	22.66	23.94	23.07	24.30	24.69	22.28	23.55	22.69	23.92	24.31
	8H	22.82	24.03	23.24	24.42	24.82	22.44	23.66	22.87	24.05	24.45
	12H	22.92	24.09	23.35	24.47	24.90	22.55	23.72	22.98	24.10	24.53
4H	2H	20.35	21.73	20.75	22.07	22.45	20.08	21.45	20.47	21.80	22.17
	3H	22.33	23.48	22.74	23.87	24.27	22.01	23.16	22.42	23.56	23.96
	4H	23.11	24.15	23.54	24.57	25.00	22.78	23.82	23.21	24.24	24.67
	6H	23.71	24.62	24.17	25.06	25.52	23.40	24.31	23.85	24.75	25.21
	8H	23.91	24.76	24.37	25.21	25.67	23.61	24.46	24.07	24.90	25.37
	12H	24.06	24.83	24.54	25.30	25.77	23.77	24.53	24.25	25.01	25.48
8H	4H	23.39	24.25	23.85	24.69	25.15	23.10	23.95	23.56	24.40	24.86
	6H	24.11	24.82	24.61	25.31	25.79	23.85	24.55	24.34	25.04	25.52
	8H	24.39	25.02	24.90	25.53	26.01	24.13	24.77	24.64	25.27	25.76
	12H	24.61	25.17	25.12	25.67	26.23	24.37	24.93	24.87	25.42	25.98
12H	4H	23.42	24.19	23.90	24.66	25.13	23.14	23.90	23.62	24.38	24.85
	6H	24.16	24.80	24.67	25.31	25.79	23.90	24.54	24.41	25.05	25.53
	8H	24.49	25.06	25.00	25.55	26.11	24.25	24.81	24.76	25.30	25.86