

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: P242621

Luminaire Tested: S124DRP-S1020D935-X4F0-XX-UDD-F-W

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-2024
Report Number: P242621
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-S1020D935-X4F0-XX-UDD-F-W
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

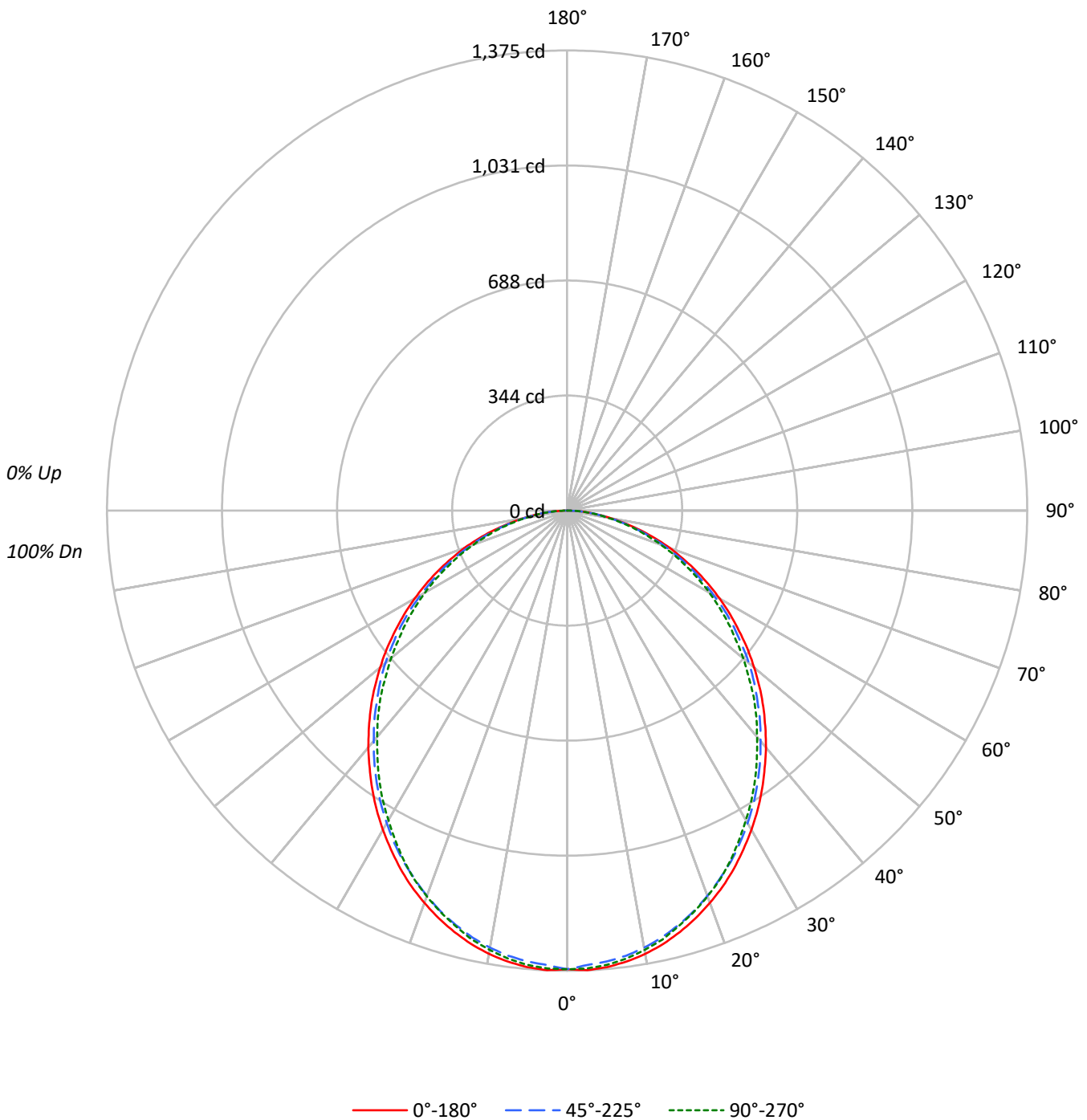
Lumens per Lamp: N/A
Luminaire Lumens: 3517.1 lumens
Efficiency: N/A
Efficacy: 101.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.29
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')
CIE Type: Direct

Input Watts (W): 34.8
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	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	73	70
3	91	80	72	66	88	79	71	65	76	69	64	73	67	63	70	66	62	60
4	83	71	63	56	81	70	62	56	67	60	55	65	59	54	63	58	53	51
5	77	64	55	48	74	63	54	48	61	53	48	59	52	47	57	51	47	44
6	71	58	49	42	69	57	48	42	55	47	42	53	47	41	52	46	41	39
7	66	52	44	38	64	52	43	37	50	43	37	49	42	37	47	41	37	35
8	61	48	39	34	60	47	39	34	46	39	33	45	38	33	43	37	33	31
9	57	44	36	30	56	43	36	30	42	35	30	41	35	30	40	34	30	28
10	54	41	33	28	52	40	33	28	39	32	27	38	32	27	37	31	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12180	12180	12180
5°	12217	12070	12158
10°	12140	11972	12032
15°	11994	11802	11832
20°	11799	11592	11602
25°	11576	11351	11318
30°	11304	11067	10965
35°	11021	10771	10628
40°	10728	10435	10244
45°	10421	10103	9911
50°	10082	9809	9504
55°	9717	9427	9120
60°	9349	8999	8725
65°	8937	8592	8245
70°	8475	8046	7734
75°	7769	7391	7202
80°	6916	6634	6465
85°	6048	5824	5711

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10421 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	129.2	3.7
10°-20°	363.9	10.3
20°-30°	535.5	15.2
30°-40°	622.5	17.7
40°-50°	622.4	17.7
50°-60°	544.4	15.5
60°-70°	404.2	11.5
70°-80°	229.3	6.5
80°-90°	65.7	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°	1028.6	29.2
0°-40°	1651.1	46.9
0°-60°	2817.9	80.1
0°-90°	3517.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3517.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1370	1370	1370	1370	1370	
5°	1369	1365	1353	1365	1363	130
15°	1303	1299	1282	1289	1286	367
25°	1180	1173	1157	1158	1154	543
35°	1016	1008	993	985	979	635
45°	829	821	804	792	788	639
55°	627	624	608	595	588	562
65°	425	419	408	398	392	420
75°	226	221	215	211	210	240
85°	59	59	57	57	56	68
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1370.3	1370.3	1370.3	1370.3	1370.3
2.5°	1374.7	1371.4	1359.3	1370.3	1369.2
5°	1369.2	1364.8	1352.7	1364.8	1362.6
7.5°	1359.3	1354.9	1341.7	1351.6	1350.5
10°	1345.0	1340.6	1326.4	1335.2	1333.0
12.5°	1326.4	1322.0	1306.6	1316.5	1313.2
15°	1303.3	1298.9	1282.5	1289.0	1285.7
17.5°	1277.0	1271.5	1256.1	1260.5	1258.3
20°	1247.3	1241.8	1225.4	1228.6	1226.5
22.5°	1215.5	1207.8	1191.3	1197.9	1193.5
25°	1180.3	1172.7	1157.3	1158.4	1154.0
27.5°	1140.8	1133.1	1118.9	1116.7	1111.2
30°	1101.3	1092.5	1078.2	1073.8	1068.3
32.5°	1059.6	1051.9	1036.5	1031.0	1025.5
35°	1015.6	1008.0	992.6	984.9	979.4
37.5°	969.5	962.9	946.5	938.8	931.1
40°	924.5	915.7	899.3	888.3	882.8
42.5°	876.2	871.8	853.1	840.0	836.7
45°	829.0	821.3	803.7	791.6	788.4
47.5°	779.6	774.1	757.6	744.4	735.7
50°	729.1	724.7	709.3	693.9	687.3
52.5°	679.7	674.2	657.7	644.5	635.7
55°	627.0	623.7	608.3	595.1	588.5
57.5°	577.5	574.2	558.9	545.7	539.1
60°	525.9	520.4	506.2	496.3	490.8
62.5°	475.4	471.0	455.7	446.9	441.4
65°	424.9	419.4	408.5	397.5	392.0
67.5°	373.3	368.9	357.9	347.0	345.9
70°	326.1	318.4	309.6	300.8	297.6
72.5°	275.6	267.9	261.3	254.7	251.4
75°	226.2	220.7	215.2	210.8	209.7
77.5°	177.9	175.7	170.2	169.1	165.8
80°	135.1	131.8	129.6	127.4	126.3
82.5°	93.3	92.2	92.2	91.1	90.0
85°	59.3	59.3	57.1	57.1	56.0
87.5°	28.5	27.4	26.4	26.4	26.4
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	19.98	21.60	20.35	21.91	22.23	19.61	21.22	19.97	21.54	21.85
	3H	21.74	23.20	22.12	23.53	23.89	21.32	22.78	21.70	23.11	23.47
	4H	22.40	23.77	22.80	24.12	24.50	21.96	23.34	22.36	23.68	24.06
	6H	22.87	24.15	23.28	24.51	24.90	22.44	23.71	22.85	24.08	24.47
	8H	23.02	24.24	23.45	24.63	25.03	22.60	23.81	23.02	24.20	24.60
	12H	23.13	24.29	23.56	24.67	25.10	22.71	23.87	23.14	24.25	24.68
4H	2H	20.55	21.93	20.95	22.28	22.65	20.26	21.63	20.66	21.98	22.35
	3H	22.53	23.68	22.94	24.08	24.48	22.19	23.34	22.59	23.73	24.13
	4H	23.32	24.36	23.75	24.77	25.21	22.95	23.99	23.38	24.41	24.84
	6H	23.92	24.83	24.37	25.27	25.73	23.56	24.46	24.01	24.91	25.36
	8H	24.12	24.97	24.58	25.41	25.88	23.76	24.61	24.22	25.05	25.52
	12H	24.27	25.03	24.75	25.51	25.98	23.92	24.68	24.40	25.16	25.62
8H	4H	23.59	24.44	24.05	24.89	25.35	23.27	24.12	23.73	24.56	25.03
	6H	24.32	25.02	24.81	25.51	25.99	24.00	24.70	24.49	25.19	25.67
	8H	24.59	25.22	25.10	25.73	26.21	24.28	24.91	24.79	25.42	25.90
	12H	24.81	25.38	25.32	25.87	26.43	24.51	25.07	25.02	25.56	26.12
12H	4H	23.62	24.39	24.10	24.86	25.33	23.31	24.07	23.79	24.55	25.02
	6H	24.36	25.00	24.87	25.51	25.99	24.06	24.69	24.57	25.20	25.68
	8H	24.69	25.25	25.20	25.74	26.31	24.40	24.96	24.90	25.45	26.01