

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P931094

Luminaire Tested: DFN2DS-SQ4F0-070DS930-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931094
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333882)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-SQ4F0-070DS930-RLL
Description: 4 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

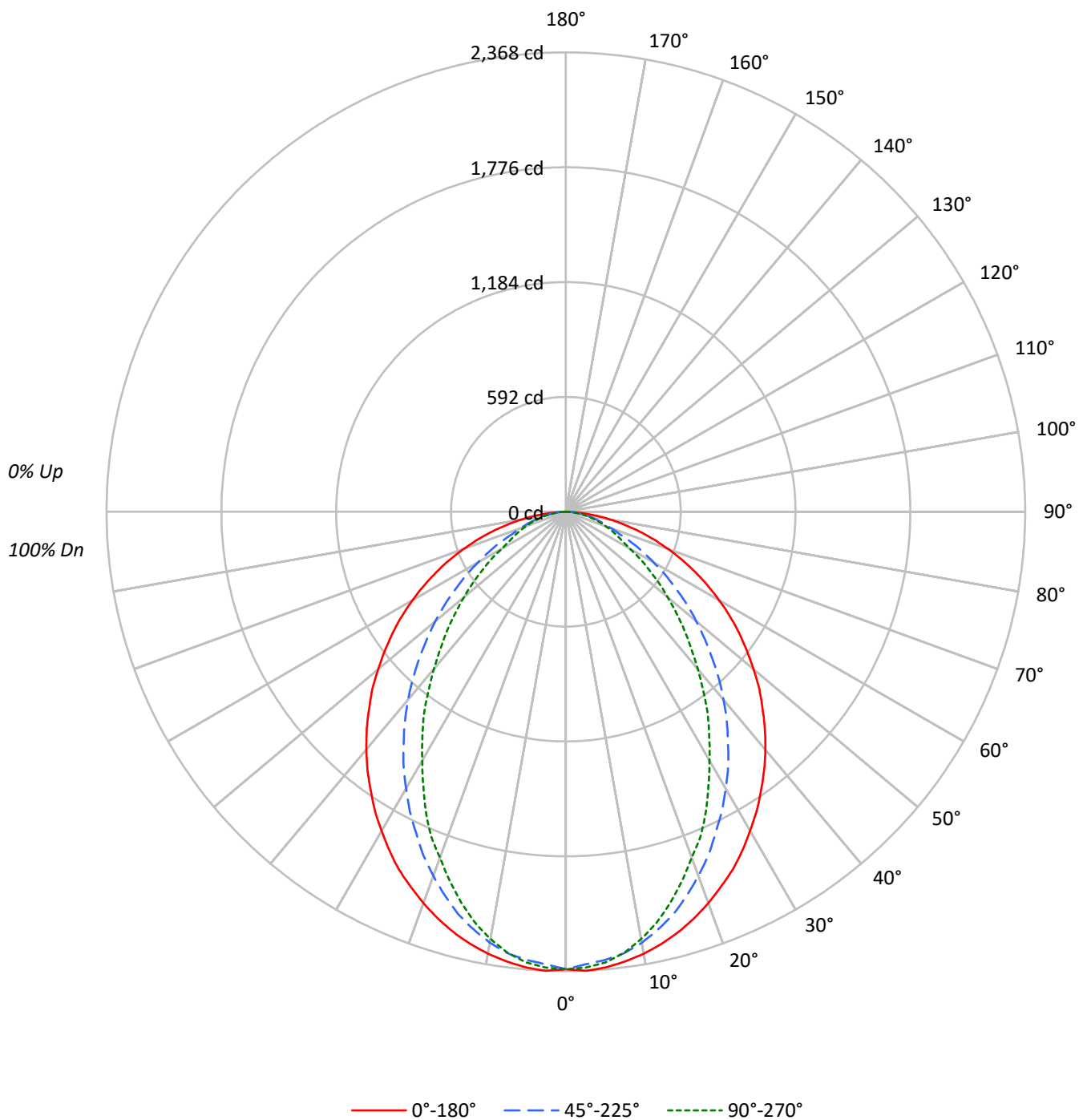
Lumens per Lamp: N/A
Luminaire Lumens: 4849.2 lumens
Efficiency: N/A
Efficacy: 70.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

Input Watts (W): 69.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9967
Total Harmonic Distortion (THDi): 0.063
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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1654	1654	1654
5°	1661	1634	1643
10°	1648	1607	1593
15°	1629	1559	1515
20°	1603	1491	1416
25°	1576	1414	1322
30°	1539	1335	1200
35°	1502	1248	1093
40°	1466	1159	969
45°	1423	1059	857
50°	1379	957	748
55°	1334	848	642
60°	1282	734	533
65°	1222	616	485
70°	1151	508	446
75°	1064	463	417
80°	939	414	380
85°	738	326	326

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1423 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	221.0	4.6
10°-20°	606.6	12.5
20°-30°	851.7	17.6
30°-40°	928.4	19.1
40°-50°	853.3	17.6
50°-60°	670.1	13.8
60°-70°	436.2	9.0
70°-80°	224.5	4.6
80°-90°	57.3	1.2
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°	1679.3	34.6
0°-40°	2607.7	53.8
0°-60°	4131.2	85.2
0°-90°	4849.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4849.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2358	2358	2358	2358	2358	
5°	2358	2347	2319	2339	2332	224
15°	2243	2219	2147	2106	2085	632
25°	2036	1967	1826	1739	1707	936
35°	1754	1645	1458	1323	1276	1098
45°	1434	1291	1067	915	864	1107
55°	1090	924	693	566	525	974
65°	736	563	371	299	292	730
75°	393	243	171	156	154	415
85°	92	47	40	40	40	110
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2357.9	2357.9	2357.9	2357.9	2357.9
2.5°	2368.5	2357.9	2334.3	2355.8	2351.5
5°	2357.9	2347.2	2319.4	2338.6	2332.3
7.5°	2338.6	2325.9	2296.1	2304.4	2293.8
10°	2313.1	2298.1	2255.5	2249.0	2236.3
12.5°	2281.1	2261.9	2204.2	2191.5	2167.9
15°	2242.6	2219.1	2146.6	2106.1	2084.9
17.5°	2197.8	2163.7	2074.0	2027.1	1992.9
20°	2146.6	2103.8	1997.2	1944.0	1896.9
22.5°	2091.2	2042.1	1918.2	1845.7	1813.9
25°	2035.7	1967.3	1826.5	1739.1	1707.0
27.5°	1969.6	1896.9	1741.2	1640.9	1591.8
30°	1899.2	1817.9	1647.2	1538.6	1480.9
32.5°	1830.8	1732.6	1557.8	1429.7	1376.2
35°	1754.0	1645.2	1457.5	1323.1	1276.0
37.5°	1679.4	1561.9	1363.6	1216.1	1163.0
40°	1600.3	1472.5	1265.3	1113.9	1058.4
42.5°	1519.3	1382.8	1167.2	1009.2	956.1
45°	1434.0	1290.9	1067.0	915.3	864.1
47.5°	1352.9	1201.5	971.0	819.3	772.5
50°	1263.2	1111.8	877.0	729.7	685.1
52.5°	1175.6	1015.6	787.4	646.5	606.0
55°	1090.3	923.9	693.4	565.5	525.0
57.5°	1002.9	832.2	610.4	490.8	456.6
60°	913.3	742.5	522.7	414.1	379.9
62.5°	825.8	655.2	448.0	345.7	328.7
65°	736.2	563.2	371.3	298.9	292.3
67.5°	650.9	477.9	298.9	262.3	256.1
70°	561.2	394.8	247.4	226.2	217.5
72.5°	475.9	317.8	206.9	190.0	185.7
75°	392.6	243.1	170.7	155.7	153.7
77.5°	309.5	172.7	134.5	125.8	121.6
80°	232.5	123.8	102.4	94.0	94.0
82.5°	162.1	83.3	70.4	66.1	66.1
85°	91.7	46.9	40.5	40.5	40.5
87.5°	34.1	17.0	17.0	14.9	14.9
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	12.98	14.51	13.35	14.82	15.13	8.94	10.47	9.31	10.78	11.09
	3H	14.75	16.11	15.13	16.44	16.80	10.21	11.57	10.59	11.90	12.26
	4H	15.42	16.70	15.82	17.04	17.42	10.71	11.99	11.11	12.34	12.72
	6H	15.90	17.09	16.32	17.45	17.85	11.09	12.28	11.50	12.64	13.03
	8H	16.07	17.20	16.50	17.59	17.99	11.22	12.34	11.64	12.73	13.13
	12H	16.17	17.25	16.60	17.63	18.06	11.30	12.38	11.73	12.76	13.19
4H	2H	13.09	14.37	13.49	14.72	15.10	9.64	10.92	10.04	11.27	11.65
	3H	15.02	16.08	15.43	16.48	16.88	11.08	12.15	11.49	12.55	12.95
	4H	15.77	16.73	16.20	17.14	17.58	11.68	12.64	12.11	13.05	13.49
	6H	16.36	17.19	16.82	17.64	18.10	12.17	13.00	12.63	13.45	13.90
	8H	16.58	17.35	17.04	17.80	18.27	12.33	13.11	12.80	13.55	14.02
	12H	16.73	17.42	17.21	17.90	18.37	12.45	13.14	12.93	13.62	14.09
8H	4H	15.79	16.57	16.26	17.02	17.48	12.04	12.81	12.50	13.26	13.72
	6H	16.43	17.07	16.93	17.57	18.04	12.62	13.27	13.12	13.76	14.23
	8H	16.68	17.26	17.20	17.77	18.26	12.84	13.42	13.36	13.93	14.42
	12H	16.89	17.40	17.40	17.89	18.45	13.02	13.53	13.53	14.03	14.59
12H	4H	15.78	16.47	16.26	16.95	17.42	12.08	12.77	12.56	13.25	13.72
	6H	16.41	16.99	16.93	17.50	17.99	12.69	13.26	13.20	13.77	14.26
	8H	16.70	17.21	17.21	17.70	18.26	12.96	13.47	13.47	13.96	14.53

END OF REPORT