

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: P931092

Luminaire Tested: DFN2DS-SQ4F0-070DS927-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931092
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-SQ4F0-070DS927-RLL
Description: 4 foot, Square Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

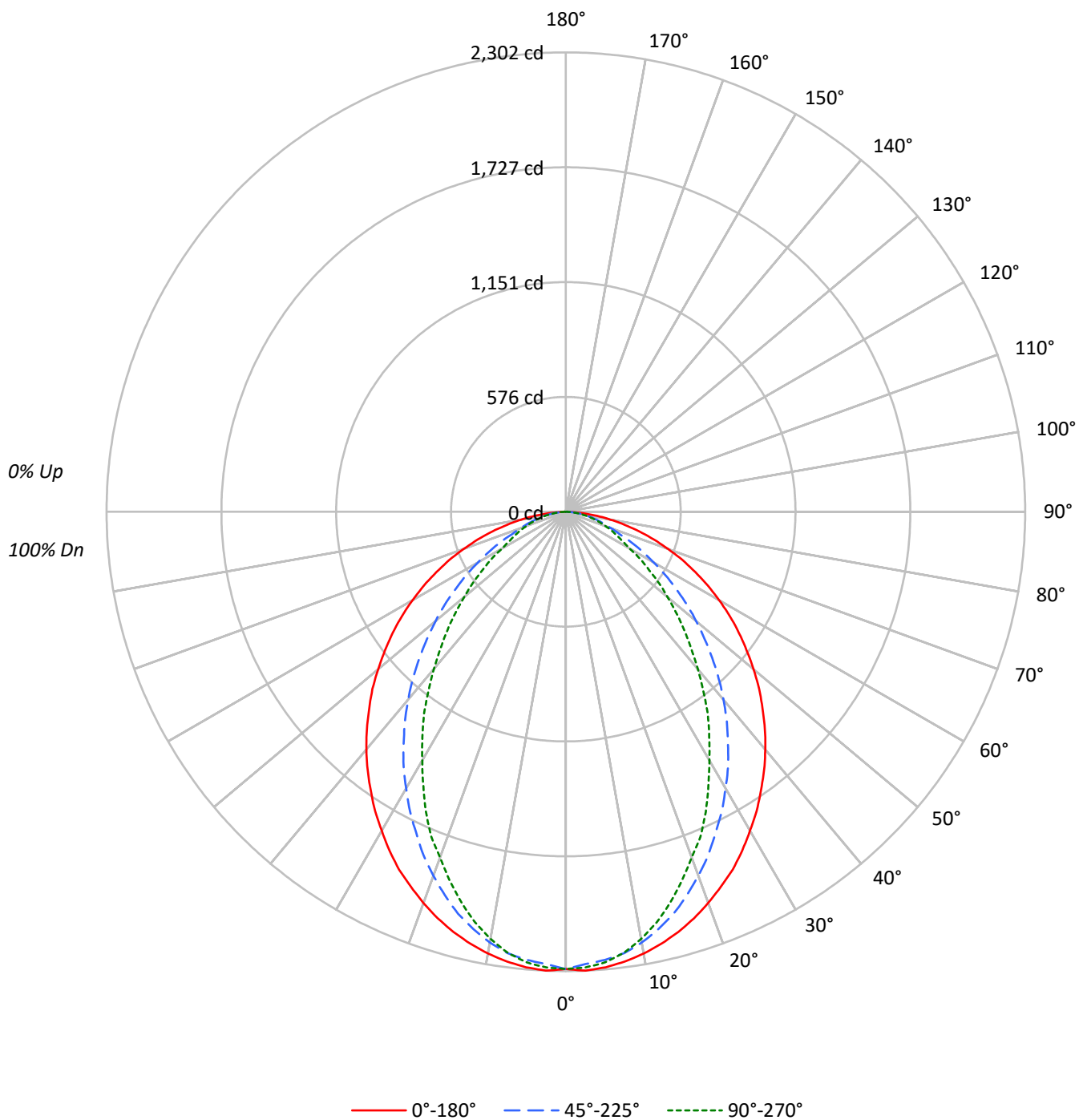
Lumens per Lamp: N/A
Luminaire Lumens: 4712.4 lumens
Efficiency: N/A
Efficacy: 68.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.92' x L: 3.92' x H: 0')
CIE Type: Direct

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°	1608	1608	1608
5°	1614	1588	1596
10°	1602	1562	1548
15°	1583	1515	1472
20°	1558	1449	1376
25°	1532	1374	1284
30°	1495	1297	1166
35°	1460	1213	1062
40°	1425	1126	942
45°	1383	1029	833
50°	1340	930	727
55°	1296	824	624
60°	1245	713	518
65°	1188	599	472
70°	1119	493	434
75°	1034	449	405
80°	913	402	369
85°	717	317	317

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1383 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	214.7	4.6
10°-20°	589.5	12.5
20°-30°	827.7	17.6
30°-40°	902.2	19.1
40°-50°	829.2	17.6
50°-60°	651.2	13.8
60°-70°	423.9	9.0
70°-80°	218.2	4.6
80°-90°	55.7	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°	1631.9	34.6
0°-40°	2534.1	53.8
0°-60°	4014.6	85.2
0°-90°	4712.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4712.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2291	2291	2291	2291	2291	
5°	2291	2281	2254	2273	2266	217
15°	2179	2156	2086	2047	2026	614
25°	1978	1912	1775	1690	1659	910
35°	1704	1599	1416	1286	1240	1067
45°	1394	1254	1037	890	840	1076
55°	1060	898	674	550	510	947
65°	715	547	361	290	284	709
75°	382	236	166	151	149	403
85°	89	46	39	39	39	107
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2291.3	2291.3	2291.3	2291.3	2291.3
2.5°	2301.6	2291.3	2268.4	2289.4	2285.2
5°	2291.3	2281.0	2254.0	2272.6	2266.5
7.5°	2272.6	2260.3	2231.3	2239.4	2229.1
10°	2247.8	2233.3	2191.9	2185.5	2173.2
12.5°	2216.7	2198.0	2142.0	2129.6	2106.7
15°	2179.3	2156.5	2086.0	2046.7	2026.0
17.5°	2135.8	2102.6	2015.5	1969.9	1936.7
20°	2086.0	2044.5	1940.9	1889.2	1843.4
22.5°	2032.2	1984.4	1864.1	1793.6	1762.7
25°	1978.3	1911.8	1775.0	1690.0	1658.8
27.5°	1914.0	1843.4	1692.0	1594.6	1546.9
30°	1845.6	1766.6	1600.7	1495.1	1439.1
32.5°	1779.1	1683.7	1513.8	1389.3	1337.4
35°	1704.5	1598.7	1416.4	1285.7	1240.0
37.5°	1632.0	1517.8	1325.1	1181.8	1130.2
40°	1555.2	1430.9	1229.6	1082.4	1028.5
42.5°	1476.4	1343.8	1134.3	980.7	929.1
45°	1393.5	1254.4	1036.9	889.5	839.8
47.5°	1314.7	1167.6	943.6	796.2	750.7
50°	1227.6	1080.4	852.3	709.1	665.8
52.5°	1142.5	986.9	765.2	628.3	588.9
55°	1059.5	897.8	673.8	549.6	510.2
57.5°	974.6	808.7	593.1	476.9	443.8
60°	887.5	721.6	508.0	402.4	369.2
62.5°	802.5	636.7	435.4	336.0	319.4
65°	715.4	547.4	360.8	290.4	284.0
67.5°	632.5	464.4	290.4	254.9	248.8
70°	545.4	383.6	240.5	219.8	211.4
72.5°	462.4	308.9	201.1	184.6	180.4
75°	381.5	236.3	165.8	151.4	149.4
77.5°	300.7	167.8	130.7	122.3	118.2
80°	226.0	120.3	99.5	91.3	91.3
82.5°	157.5	80.9	68.4	64.2	64.2
85°	89.1	45.5	39.4	39.4	39.4
87.5°	33.2	16.5	16.5	14.5	14.5
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	12.88	14.41	13.25	14.72	15.03	8.84	10.37	9.21	10.68	10.99
	3H	14.65	16.01	15.03	16.34	16.70	10.11	11.47	10.49	11.80	12.16
	4H	15.32	16.60	15.72	16.95	17.32	10.61	11.89	11.01	12.24	12.62
	6H	15.80	16.99	16.22	17.35	17.75	10.99	12.18	11.40	12.54	12.93
	8H	15.97	17.10	16.40	17.49	17.89	11.12	12.24	11.54	12.63	13.03
	12H	16.07	17.15	16.50	17.53	17.96	11.20	12.28	11.63	12.66	13.09
4H	2H	12.99	14.27	13.39	14.62	15.00	9.54	10.82	9.94	11.17	11.55
	3H	14.92	15.98	15.33	16.38	16.79	10.98	12.05	11.39	12.45	12.85
	4H	15.67	16.63	16.10	17.04	17.48	11.58	12.54	12.02	12.96	13.39
	6H	16.26	17.09	16.72	17.54	18.00	12.07	12.90	12.53	13.35	13.81
	8H	16.48	17.25	16.94	17.70	18.17	12.23	13.01	12.70	13.45	13.92
	12H	16.63	17.33	17.11	17.80	18.27	12.35	13.04	12.83	13.52	13.99
8H	4H	15.70	16.47	16.16	16.92	17.38	11.94	12.71	12.40	13.16	13.63
	6H	16.33	16.98	16.83	17.47	17.94	12.52	13.17	13.02	13.66	14.13
	8H	16.58	17.16	17.10	17.67	18.16	12.74	13.32	13.26	13.83	14.32
	12H	16.79	17.30	17.30	17.79	18.35	12.92	13.43	13.43	13.93	14.49
12H	4H	15.68	16.37	16.16	16.85	17.32	11.98	12.67	12.46	13.15	13.62
	6H	16.31	16.89	16.83	17.40	17.89	12.59	13.16	13.10	13.67	14.16
	8H	16.60	17.11	17.11	17.60	18.16	12.86	13.37	13.37	13.86	14.43