

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: P930015

Luminaire Tested: DFN2DS-4P4F0-070DS935-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P930015
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P333812)
Test Lab: INNOVATION CENTER
Issue Date: 11/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DS-4P4F0-070DS935-FLL
Description: 4 foot, 90deg - 4way Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

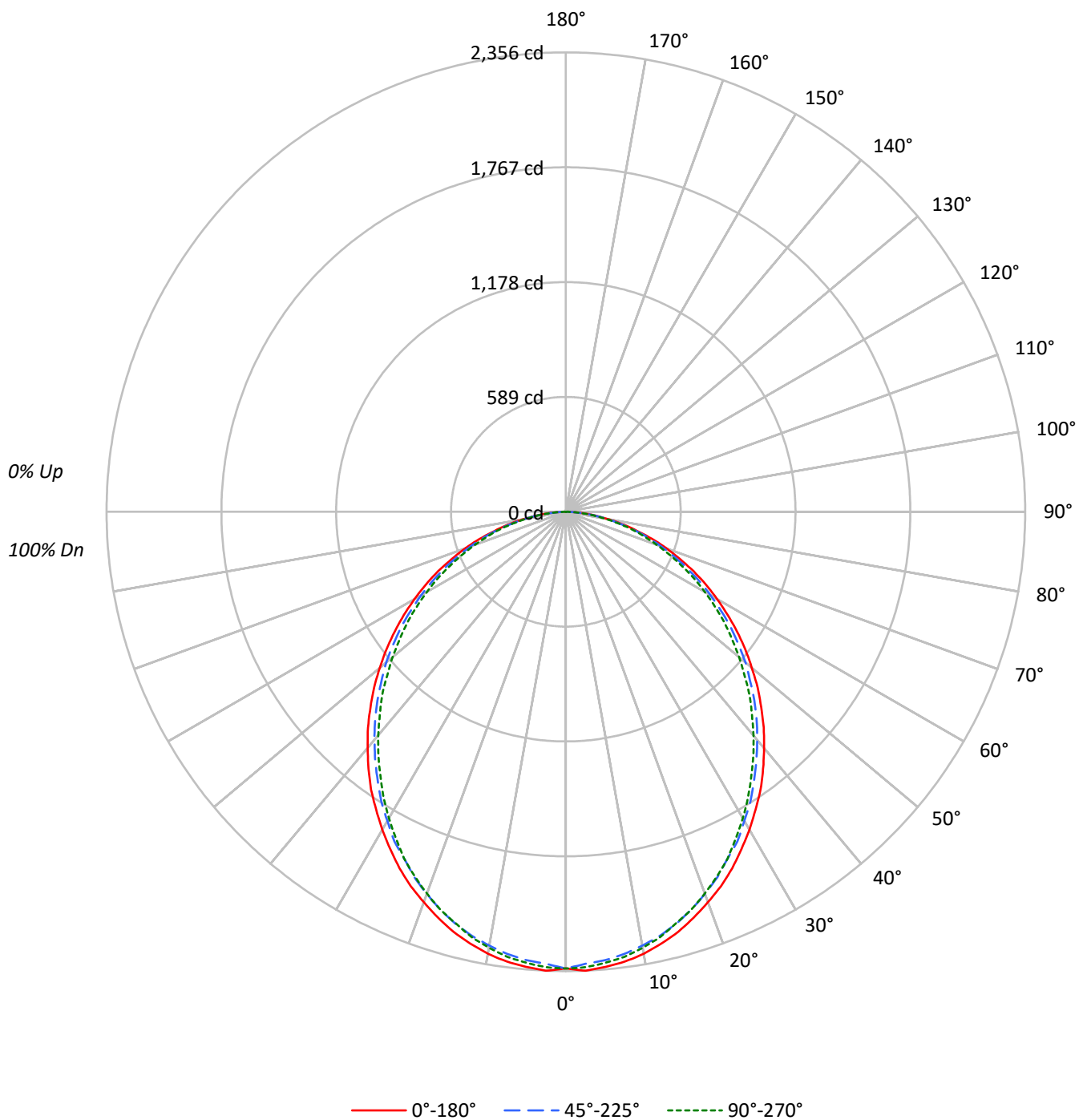
Lumens per Lamp: N/A
Luminaire Lumens: 5959.8 lumens
Efficiency: N/A
Efficacy: 79.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 4.07' x L: 4.07' x H: 0')
CIE Type: Direct

Input Watts (W): 74.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
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	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1520	1520	1520
5°	1525	1504	1512
10°	1516	1488	1496
15°	1498	1469	1467
20°	1471	1440	1438
25°	1445	1404	1404
30°	1411	1372	1360
35°	1379	1333	1313
40°	1339	1293	1269
45°	1300	1254	1223
50°	1257	1214	1171
55°	1213	1167	1124
60°	1163	1111	1070
65°	1110	1055	1006
70°	1042	987	940
75°	948	909	887
80°	842	816	774
85°	687	655	587

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1300 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	220.5	3.7
10°-20°	620.3	10.4
20°-30°	911.6	15.3
30°-40°	1058.8	17.8
40°-50°	1057.5	17.7
50°-60°	922.1	15.5
60°-70°	681.6	11.4
70°-80°	385.7	6.5
80°-90°	101.8	1.7
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°	1752.4	29.4
0°-40°	2811.2	47.2
0°-60°	4790.7	80.4
0°-90°	5959.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5959.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2342	2342	2342	2342	2342	
5°	2342	2334	2309	2327	2322	222
15°	2230	2216	2187	2196	2185	628
25°	2018	2000	1962	1966	1962	929
35°	1741	1719	1683	1669	1658	1087
45°	1417	1401	1367	1342	1333	1093
55°	1072	1059	1032	1005	993	959
65°	723	710	687	667	656	715
75°	378	374	362	349	354	404
85°	92	90	88	81	79	108
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2342.4	2342.4	2342.4	2342.4	2342.4
2.5°	2356.1	2344.8	2319.9	2342.4	2338.1
5°	2342.4	2333.6	2308.8	2326.6	2322.3
7.5°	2326.6	2313.2	2288.4	2306.6	2302.0
10°	2302.0	2286.2	2259.2	2277.2	2270.5
12.5°	2268.1	2254.7	2227.7	2238.9	2234.4
15°	2229.9	2216.5	2187.1	2196.2	2184.9
17.5°	2182.5	2169.2	2139.8	2151.0	2139.8
20°	2130.6	2117.3	2085.8	2092.5	2083.6
22.5°	2079.0	2058.8	2029.3	2029.3	2024.8
25°	2018.2	2000.2	1962.0	1966.3	1962.0
27.5°	1950.5	1934.7	1905.6	1898.9	1887.6
30°	1883.1	1864.9	1831.3	1824.6	1815.5
32.5°	1810.9	1797.6	1761.5	1747.9	1738.7
35°	1741.2	1718.7	1682.6	1669.0	1657.7
37.5°	1662.3	1642.0	1605.9	1590.1	1578.9
40°	1581.3	1563.1	1527.0	1507.0	1497.9
42.5°	1502.4	1484.3	1448.4	1425.7	1412.3
45°	1416.8	1401.1	1367.1	1342.5	1333.4
47.5°	1333.4	1317.7	1281.6	1256.7	1243.4
50°	1245.5	1234.3	1202.7	1171.2	1160.0
52.5°	1160.0	1144.2	1115.1	1090.2	1074.4
55°	1072.2	1058.7	1031.7	1004.7	993.4
57.5°	984.4	973.1	943.7	916.7	907.6
60°	896.4	887.5	856.0	831.2	824.5
62.5°	810.8	795.1	772.6	750.2	741.1
65°	723.2	709.5	687.1	666.8	655.5
67.5°	633.0	621.6	601.5	585.7	576.6
70°	549.6	540.6	520.2	504.5	495.6
72.5°	464.1	455.0	443.8	428.0	421.3
75°	378.3	374.0	362.5	349.2	353.7
77.5°	301.9	292.7	288.2	281.5	274.9
80°	225.3	223.0	218.4	211.7	207.2
82.5°	153.2	153.2	151.0	142.0	142.0
85°	92.3	90.1	88.0	81.0	78.9
87.5°	40.6	36.1	31.6	24.9	22.4
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	12.74	14.35	13.10	14.66	14.98	12.29	13.90	12.66	14.22	14.53
	3H	14.49	15.94	14.86	16.27	16.63	14.00	15.45	14.37	15.78	16.14
	4H	15.13	16.50	15.53	16.85	17.23	14.64	16.01	15.04	16.35	16.73
	6H	15.60	16.87	16.01	17.24	17.63	15.10	16.37	15.51	16.73	17.12
	8H	15.75	16.96	16.17	17.34	17.74	15.24	16.45	15.67	16.84	17.24
	12H	15.84	17.00	16.26	17.38	17.81	15.32	16.48	15.75	16.87	17.29
4H	2H	13.30	14.67	13.70	15.01	15.39	12.94	14.31	13.34	14.66	15.04
	3H	15.27	16.42	15.68	16.82	17.22	14.87	16.01	15.27	16.41	16.81
	4H	16.05	17.08	16.48	17.50	17.93	15.62	16.66	16.06	17.07	17.51
	6H	16.65	17.55	17.10	17.99	18.45	16.21	17.12	16.67	17.56	18.01
	8H	16.83	17.68	17.30	18.12	18.59	16.40	17.24	16.86	17.69	18.15
	12H	16.97	17.73	17.45	18.20	18.67	16.51	17.27	16.99	17.75	18.22
8H	4H	16.32	17.17	16.78	17.61	18.08	15.95	16.79	16.41	17.24	17.70
	6H	17.04	17.74	17.53	18.23	18.70	16.65	17.36	17.15	17.85	18.32
	8H	17.30	17.93	17.81	18.43	18.92	16.90	17.53	17.41	18.04	18.53
	12H	17.50	18.05	18.00	18.54	19.10	17.08	17.64	17.59	18.13	18.69
12H	4H	16.35	17.11	16.83	17.58	18.05	15.98	16.74	16.46	17.22	17.69
	6H	17.08	17.71	17.59	18.22	18.71	16.71	17.34	17.22	17.85	18.34
	8H	17.40	17.95	17.90	18.44	19.01	17.02	17.58	17.52	18.07	18.63