

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: P931514

Luminaire Tested: DFN2DS-TR4F0-070DS950-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931514
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-TR4F0-070DS950-RLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

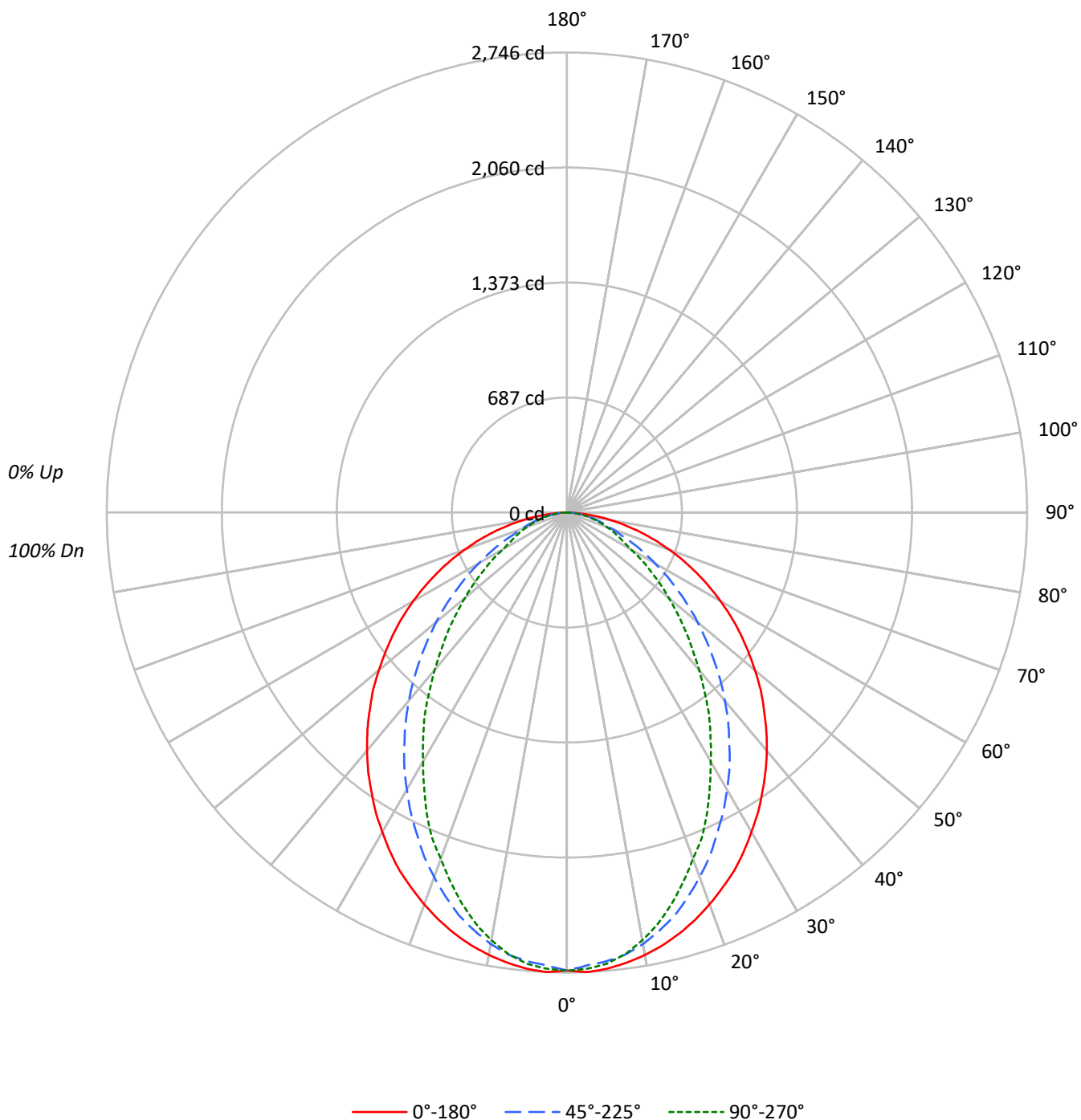
Lumens per Lamp: N/A
Luminaire Lumens: 5622.7 lumens
Efficiency: N/A
Efficacy: 78.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 71.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9977
Total Harmonic Distortion (THDi): 0.049
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°	2172	2172	2172
5°	2180	2145	2157
10°	2164	2110	2092
15°	2139	2047	1988
20°	2104	1958	1859
25°	2069	1856	1735
30°	2020	1752	1575
35°	1972	1639	1435
40°	1924	1521	1273
45°	1868	1390	1126
50°	1810	1257	982
55°	1751	1114	843
60°	1683	963	700
65°	1605	809	637
70°	1511	666	586
75°	1397	607	547
80°	1233	543	499
85°	969	428	428

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1868 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	256.2	4.6
10°-20°	703.4	12.5
20°-30°	987.6	17.6
30°-40°	1076.5	19.1
40°-50°	989.4	17.6
50°-60°	777.0	13.8
60°-70°	505.8	9.0
70°-80°	260.3	4.6
80°-90°	66.5	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°	1947.2	34.6
0°-40°	3023.7	53.8
0°-60°	4790.2	85.2
0°-90°	5622.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5622.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2734	2734	2734	2734	2734	
5°	2734	2722	2689	2712	2704	259
15°	2600	2573	2489	2442	2417	733
25°	2360	2281	2118	2016	1979	1086
35°	2034	1908	1690	1534	1480	1273
45°	1663	1497	1237	1061	1002	1284
55°	1264	1071	804	656	609	1130
65°	854	653	430	346	339	846
75°	455	282	198	181	178	481
85°	106	54	47	47	47	127
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2734.0	2734.0	2734.0	2734.0	2734.0
2.5°	2746.3	2734.0	2706.7	2731.6	2726.6
5°	2734.0	2721.6	2689.4	2711.7	2704.3
7.5°	2711.7	2696.9	2662.3	2672.0	2659.7
10°	2682.0	2664.7	2615.3	2607.7	2593.0
12.5°	2645.0	2622.7	2555.8	2541.0	2513.7
15°	2600.4	2573.0	2489.0	2442.1	2417.4
17.5°	2548.4	2508.8	2404.8	2350.4	2310.8
20°	2489.0	2439.4	2315.8	2254.1	2199.5
22.5°	2424.8	2367.8	2224.2	2140.1	2103.2
25°	2360.4	2281.1	2117.8	2016.5	1979.3
27.5°	2283.8	2199.5	2018.9	1902.7	1845.7
30°	2202.1	2107.9	1909.9	1784.0	1717.1
32.5°	2122.8	2009.0	1806.3	1657.7	1595.7
35°	2033.8	1907.6	1690.0	1534.1	1479.5
37.5°	1947.3	1811.0	1581.1	1410.1	1348.5
40°	1855.6	1707.3	1467.1	1291.5	1227.2
42.5°	1761.7	1603.4	1353.4	1170.2	1108.6
45°	1662.7	1496.8	1237.2	1061.3	1002.0
47.5°	1568.7	1393.1	1125.9	950.0	895.7
50°	1464.8	1289.2	1016.9	846.1	794.4
52.5°	1363.2	1177.6	913.0	749.7	702.7
55°	1264.2	1071.3	804.0	655.7	608.8
57.5°	1162.9	964.9	707.7	569.1	529.5
60°	1059.0	861.0	606.1	480.2	440.5
62.5°	957.6	759.7	519.5	400.9	381.1
65°	853.6	653.1	430.5	346.5	338.9
67.5°	754.7	554.1	346.5	304.2	296.9
70°	650.7	457.8	286.9	262.2	252.2
72.5°	551.8	368.5	239.9	220.3	215.3
75°	455.2	281.9	197.9	180.6	178.2
77.5°	358.8	200.2	155.9	145.9	141.0
80°	269.6	143.5	118.7	109.0	109.0
82.5°	188.0	96.6	81.6	76.6	76.6
85°	106.3	54.3	47.0	47.0	47.0
87.5°	39.6	19.7	19.7	17.3	17.3
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	13.93	15.45	14.29	15.76	16.08	9.89	11.41	10.26	11.73	12.04
	3H	15.69	17.06	16.07	17.39	17.75	11.16	12.52	11.53	12.85	13.21
	4H	16.36	17.64	16.76	17.99	18.37	11.66	12.94	12.06	13.29	13.66
	6H	16.85	18.03	17.26	18.40	18.79	12.04	13.22	12.45	13.59	13.98
	8H	17.02	18.14	17.44	18.53	18.93	12.16	13.29	12.59	13.68	14.08
	12H	17.12	18.20	17.55	18.58	19.01	12.24	13.32	12.67	13.70	14.13
4H	2H	14.03	15.31	14.43	15.66	16.04	10.59	11.87	10.99	12.22	12.59
	3H	15.97	17.03	16.38	17.43	17.83	12.03	13.09	12.44	13.49	13.89
	4H	16.72	17.67	17.15	18.09	18.53	12.63	13.58	13.06	14.00	14.44
	6H	17.31	18.14	17.76	18.58	19.04	13.12	13.95	13.57	14.39	14.85
	8H	17.52	18.30	17.99	18.74	19.21	13.28	14.06	13.74	14.50	14.97
	12H	17.68	18.37	18.16	18.85	19.32	13.40	14.09	13.88	14.57	15.04
8H	4H	16.74	17.52	17.20	17.96	18.43	12.98	13.76	13.45	14.20	14.67
	6H	17.38	18.02	17.87	18.51	18.99	13.57	14.21	14.07	14.70	15.18
	8H	17.63	18.20	18.14	18.71	19.20	13.79	14.37	14.30	14.88	15.36
	12H	17.83	18.34	18.34	18.83	19.40	13.97	14.48	14.48	14.97	15.54
12H	4H	16.72	17.42	17.21	17.90	18.37	13.02	13.72	13.51	14.20	14.67
	6H	17.36	17.94	17.87	18.45	18.93	13.63	14.21	14.15	14.72	15.21
	8H	17.64	18.15	18.15	18.64	19.21	13.91	14.41	14.41	14.91	15.47