

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: P931496

Luminaire Tested: DFN2DS-TR4F0-060DS950-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931496
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-TR4F0-060DS950-RLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

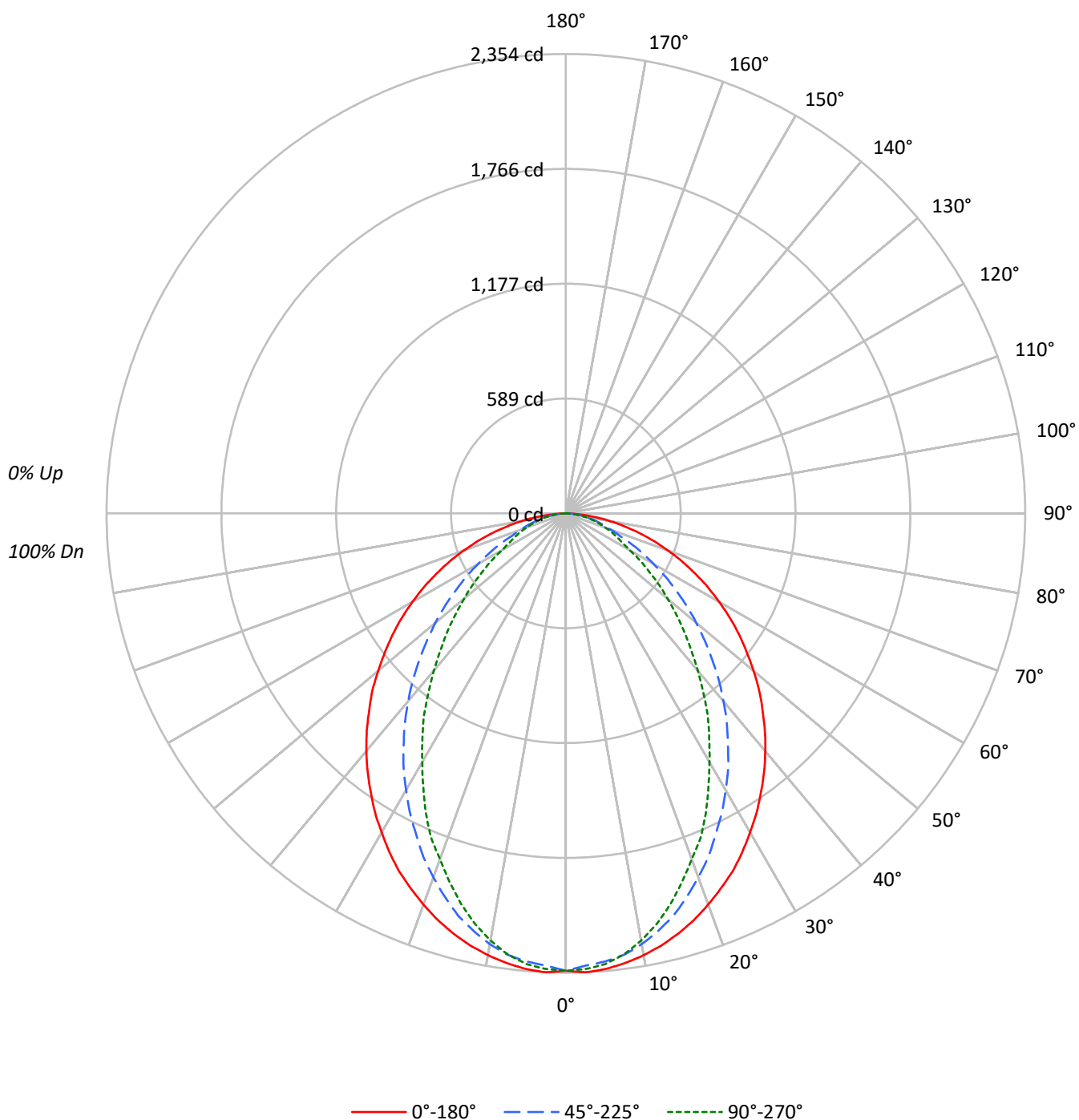
Lumens per Lamp: N/A
Luminaire Lumens: 4819.5 lumens
Efficiency: N/A
Efficacy: 80.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 59.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9781
Total Harmonic Distortion (THDi): 0.075
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°	1862	1862	1862
5°	1869	1838	1849
10°	1854	1808	1793
15°	1833	1755	1704
20°	1804	1678	1594
25°	1773	1591	1487
30°	1731	1502	1350
35°	1691	1405	1230
40°	1649	1304	1091
45°	1601	1191	965
50°	1552	1077	842
55°	1501	955	723
60°	1442	826	600
65°	1375	694	546
70°	1295	571	502
75°	1198	521	469
80°	1057	465	427
85°	830	367	367

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1601 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	219.6	4.6
10°-20°	602.9	12.5
20°-30°	846.5	17.6
30°-40°	922.7	19.1
40°-50°	848.1	17.6
50°-60°	666.0	13.8
60°-70°	433.5	9.0
70°-80°	223.2	4.6
80°-90°	57.0	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°	1669.0	34.6
0°-40°	2591.7	53.8
0°-60°	4105.8	85.2
0°-90°	4819.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4819.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2343	2343	2343	2343	2343	
5°	2343	2333	2305	2324	2318	222
15°	2229	2205	2133	2093	2072	628
25°	2023	1955	1815	1728	1697	930
35°	1743	1635	1449	1315	1268	1091
45°	1425	1283	1060	910	859	1101
55°	1084	918	689	562	522	968
65°	732	560	369	297	290	725
75°	390	242	170	155	153	413
85°	91	47	40	40	40	109
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2343.4	2343.4	2343.4	2343.4	2343.4
2.5°	2354.0	2343.4	2320.0	2341.3	2337.1
5°	2343.4	2332.8	2305.1	2324.3	2318.0
7.5°	2324.3	2311.7	2282.0	2290.3	2279.7
10°	2298.8	2284.0	2241.7	2235.2	2222.5
12.5°	2267.1	2248.0	2190.6	2178.0	2154.6
15°	2228.9	2205.4	2133.4	2093.2	2072.0
17.5°	2184.4	2150.3	2061.2	2014.6	1980.7
20°	2133.4	2090.9	1985.0	1932.1	1885.3
22.5°	2078.3	2029.5	1906.4	1834.4	1802.7
25°	2023.2	1955.3	1815.3	1728.5	1696.6
27.5°	1957.6	1885.3	1730.5	1630.8	1582.0
30°	1887.5	1806.7	1637.1	1529.1	1471.7
32.5°	1819.6	1722.0	1548.3	1420.9	1367.8
35°	1743.3	1635.1	1448.6	1314.9	1268.1
37.5°	1669.1	1552.3	1355.2	1208.7	1155.8
40°	1590.5	1463.4	1257.5	1107.0	1051.9
42.5°	1510.0	1374.3	1160.1	1003.0	950.2
45°	1425.2	1282.9	1060.5	909.7	858.8
47.5°	1344.6	1194.1	965.0	814.3	767.7
50°	1255.5	1105.0	871.7	725.2	680.9
52.5°	1168.4	1009.4	782.6	642.6	602.3
55°	1083.6	918.3	689.2	562.1	521.7
57.5°	996.8	827.1	606.6	487.8	453.8
60°	907.7	738.0	519.6	411.5	377.5
62.5°	820.8	651.2	445.3	343.6	326.7
65°	731.7	559.8	369.0	297.0	290.5
67.5°	646.9	475.0	297.0	260.8	254.5
70°	557.7	392.4	245.9	224.8	216.2
72.5°	473.0	315.9	205.6	188.8	184.5
75°	390.2	241.6	169.6	154.8	152.8
77.5°	307.6	171.7	133.6	125.1	120.9
80°	231.1	123.0	101.7	93.4	93.4
82.5°	161.1	82.8	69.9	65.7	65.7
85°	91.1	46.6	40.3	40.3	40.3
87.5°	34.0	16.9	16.9	14.8	14.8
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	13.39	14.92	13.76	15.23	15.54	9.35	10.88	9.72	11.19	11.50
	3H	15.16	16.52	15.54	16.85	17.21	10.62	11.98	11.00	12.31	12.67
	4H	15.83	17.11	16.23	17.45	17.83	11.12	12.40	11.52	12.75	13.13
	6H	16.31	17.50	16.73	17.86	18.26	11.50	12.69	11.91	13.05	13.44
	8H	16.48	17.61	16.91	18.00	18.40	11.63	12.75	12.05	13.14	13.54
	12H	16.58	17.66	17.01	18.04	18.47	11.71	12.79	12.14	13.17	13.60
4H	2H	13.50	14.78	13.90	15.13	15.51	10.05	11.33	10.45	11.68	12.06
	3H	15.43	16.49	15.84	16.89	17.29	11.49	12.56	11.90	12.96	13.36
	4H	16.18	17.14	16.61	17.55	17.99	12.09	13.05	12.53	13.46	13.90
	6H	16.77	17.60	17.23	18.05	18.51	12.58	13.41	13.04	13.86	14.32
	8H	16.99	17.76	17.45	18.21	18.68	12.74	13.52	13.21	13.96	14.43
	12H	17.14	17.83	17.62	18.31	18.78	12.86	13.55	13.34	14.03	14.50
8H	4H	16.20	16.98	16.67	17.43	17.89	12.45	13.22	12.91	13.67	14.14
	6H	16.84	17.48	17.34	17.98	18.45	13.03	13.68	13.53	14.17	14.64
	8H	17.09	17.67	17.61	18.18	18.67	13.25	13.83	13.77	14.34	14.83
	12H	17.30	17.81	17.81	18.30	18.86	13.43	13.94	13.94	14.44	15.00
12H	4H	16.19	16.88	16.67	17.36	17.83	12.49	13.18	12.97	13.66	14.13
	6H	16.82	17.40	17.34	17.91	18.40	13.10	13.67	13.61	14.18	14.67
	8H	17.11	17.62	17.62	18.11	18.67	13.37	13.88	13.88	14.37	14.94