

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: P931476

Luminaire Tested: DFN2DS-TR4F0-050DS940-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931476
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-TR4F0-050DS940-RLL
Description: 4 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

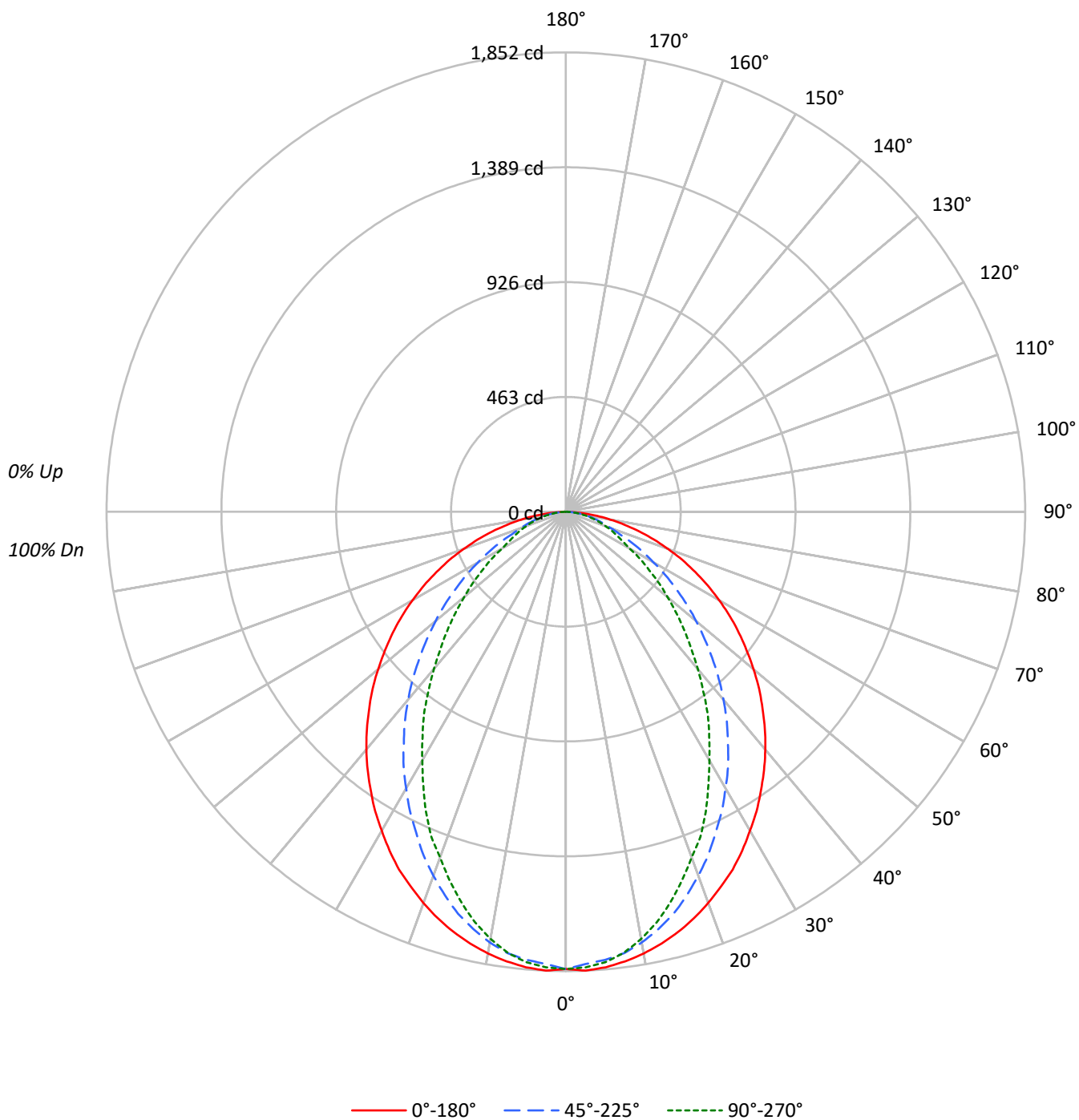
Lumens per Lamp: N/A
Luminaire Lumens: 3791.0 lumens
Efficiency: N/A
Efficacy: 78.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 48.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.996
Total Harmonic Distortion (THDi): 0.064
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°	1464	1464	1464
5°	1470	1446	1454
10°	1459	1422	1410
15°	1442	1380	1341
20°	1419	1320	1254
25°	1395	1252	1170
30°	1362	1181	1062
35°	1330	1105	967
40°	1297	1026	858
45°	1260	937	759
50°	1221	847	662
55°	1181	751	568
60°	1134	649	472
65°	1082	546	430
70°	1019	449	395
75°	942	409	369
80°	832	366	336
85°	654	289	289

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1260 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.8	4.6
10°-20°	474.3	12.5
20°-30°	665.8	17.6
30°-40°	725.8	19.1
40°-50°	667.1	17.6
50°-60°	523.9	13.8
60°-70°	341.0	9.0
70°-80°	175.5	4.6
80°-90°	44.8	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°	1312.9	34.6
0°-40°	2038.7	53.8
0°-60°	3229.7	85.2
0°-90°	3791.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3791.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1843	1843	1843	1843	1843	
5°	1843	1835	1813	1828	1823	175
15°	1753	1735	1678	1646	1630	494
25°	1591	1538	1428	1360	1334	732
35°	1371	1286	1139	1034	998	858
45°	1121	1009	834	716	676	866
55°	852	722	542	442	410	762
65°	576	440	290	234	228	571
75°	307	190	133	122	120	325
85°	72	37	32	32	32	86
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1843.3	1843.3	1843.3	1843.3	1843.3
2.5°	1851.6	1843.3	1824.9	1841.7	1838.3
5°	1843.3	1835.0	1813.3	1828.2	1823.3
7.5°	1828.2	1818.3	1795.0	1801.6	1793.2
10°	1808.3	1796.6	1763.3	1758.2	1748.2
12.5°	1783.3	1768.3	1723.2	1713.3	1694.8
15°	1753.2	1734.9	1678.2	1646.5	1629.9
17.5°	1718.2	1691.5	1621.4	1584.7	1558.0
20°	1678.2	1644.8	1561.4	1519.8	1483.0
22.5°	1634.9	1596.4	1499.6	1443.0	1418.0
25°	1591.4	1538.0	1427.9	1359.6	1334.4
27.5°	1539.8	1483.0	1361.2	1282.8	1244.4
30°	1484.7	1421.2	1287.8	1202.8	1157.6
32.5°	1431.3	1354.5	1217.8	1117.7	1075.9
35°	1371.3	1286.2	1139.4	1034.3	997.5
37.5°	1312.8	1221.1	1066.0	950.8	909.2
40°	1251.1	1151.1	989.1	870.8	827.4
42.5°	1187.8	1081.0	912.5	789.0	747.4
45°	1121.1	1009.2	834.1	715.6	675.5
47.5°	1057.6	939.3	759.1	640.5	603.9
50°	987.6	869.2	685.7	570.4	535.6
52.5°	919.1	794.0	615.6	505.5	473.8
55°	852.4	722.3	542.1	442.1	410.4
57.5°	784.1	650.6	477.1	383.7	357.0
60°	714.0	580.5	408.6	323.7	296.9
62.5°	645.6	512.2	350.3	270.3	257.0
65°	575.5	440.4	290.3	233.6	228.5
67.5°	508.8	373.7	233.6	205.2	200.2
70°	438.8	308.6	193.5	176.8	170.1
72.5°	372.1	248.5	161.8	148.5	145.1
75°	306.9	190.1	133.4	121.8	120.2
77.5°	241.9	135.0	105.2	98.4	95.0
80°	181.8	96.8	80.0	73.4	73.4
82.5°	126.8	65.1	55.0	51.6	51.6
85°	71.7	36.7	31.7	31.7	31.7
87.5°	26.8	13.3	13.3	11.7	11.7
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	12.56	14.08	12.92	14.40	14.71	8.52	10.04	8.89	10.36	10.67
	3H	14.33	15.69	14.70	16.02	16.38	9.79	11.15	10.16	11.48	11.84
	4H	14.99	16.27	15.39	16.62	17.00	10.29	11.57	10.69	11.92	12.30
	6H	15.48	16.66	15.89	17.03	17.42	10.67	11.85	11.08	12.22	12.61
	8H	15.65	16.77	16.07	17.16	17.56	10.79	11.92	11.22	12.31	12.71
	12H	15.75	16.83	16.18	17.21	17.64	10.87	11.95	11.30	12.33	12.76
4H	2H	12.66	13.94	13.06	14.29	14.67	9.22	10.50	9.62	10.85	11.22
	3H	14.60	15.66	15.01	16.06	16.46	10.66	11.72	11.07	12.12	12.52
	4H	15.35	16.30	15.78	16.72	17.16	11.26	12.22	11.69	12.63	13.07
	6H	15.94	16.77	16.40	17.21	17.67	11.75	12.58	12.20	13.02	13.48
	8H	16.15	16.93	16.62	17.37	17.84	11.91	12.69	12.37	13.13	13.60
	12H	16.31	17.00	16.79	17.48	17.95	12.03	12.72	12.51	13.20	13.67
8H	4H	15.37	16.15	15.83	16.59	17.06	11.61	12.39	12.08	12.83	13.30
	6H	16.01	16.65	16.51	17.14	17.62	12.20	12.84	12.70	13.33	13.81
	8H	16.26	16.84	16.77	17.35	17.83	12.42	13.00	12.93	13.51	13.99
	12H	16.46	16.97	16.97	17.47	18.03	12.60	13.11	13.11	13.60	14.17
12H	4H	15.36	16.05	15.84	16.53	17.00	11.66	12.35	12.14	12.83	13.30
	6H	15.99	16.57	16.50	17.08	17.56	12.26	12.84	12.78	13.35	13.84
	8H	16.27	16.78	16.78	17.28	17.84	12.53	13.04	13.04	13.54	14.10