

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: P931493

Luminaire Tested: DFN2DS-TR4F0-060DS940-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931493
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-TR4F0-060DS940-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

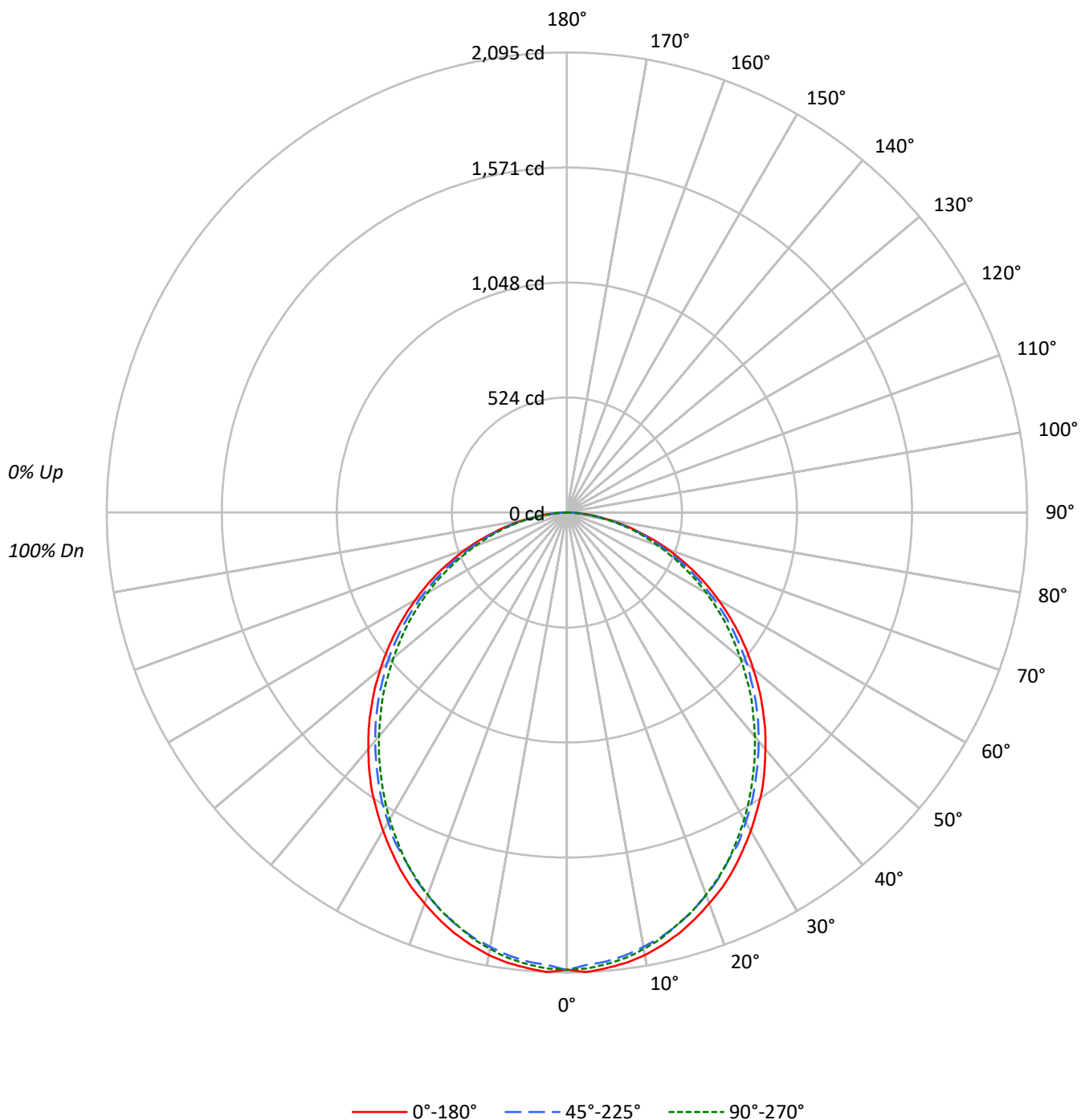
Lumens per Lamp: N/A
Luminaire Lumens: 5298.4 lumens
Efficiency: N/A
Efficacy: 88.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P931493

CATALOG NUMBER: DFN2DS-TR4F0-060DS940-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P931493

CATALOG NUMBER: DFN2DS-TR4F0-060DS940-FLL

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20			
RC	80				70				50				30				10			0
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50	30	10	0
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92		94	91	89		90	88	86	84
2	99	91	85	79	97	89	83	78	86	81	76		83	78	74		80	76	73	71
3	91	80	72	66	88	79	71	65	76	69	64		73	68	63		71	66	62	60
4	83	71	63	56	81	70	62	56	68	61	55		65	59	54		63	58	54	51
5	77	64	55	49	75	63	55	48	61	53	48		59	52	47		57	51	47	45
6	71	58	49	43	69	57	48	42	55	48	42		53	47	42		52	46	41	39
7	66	52	44	38	64	52	43	38	50	43	37		49	42	37		47	41	37	35
8	61	48	40	34	60	47	39	34	46	39	33		45	38	33		44	38	33	31
9	57	44	36	30	56	43	36	30	42	35	30		41	35	30		40	34	30	28
10	54	41	33	28	53	40	33	28	39	32	27		38	32	27		37	32	27	26

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1654	1654	1654
5°	1661	1637	1646
10°	1651	1620	1628
15°	1630	1599	1598
20°	1601	1568	1566
25°	1573	1529	1529
30°	1536	1494	1481
35°	1501	1451	1429
40°	1458	1408	1381
45°	1415	1366	1332
50°	1369	1322	1274
55°	1320	1270	1223
60°	1266	1209	1165
65°	1209	1148	1095
70°	1135	1074	1023
75°	1032	989	965
80°	916	888	843
85°	747	712	639

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1415 cd/sqm

TEST NUMBER: P931493

CATALOG NUMBER: DFN2DS-TR4F0-060DS940-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	196.0	3.7
10°-20°	551.5	10.4
20°-30°	810.5	15.3
30°-40°	941.3	17.8
40°-50°	940.1	17.7
50°-60°	819.8	15.5
60°-70°	606.0	11.4
70°-80°	342.9	6.5
80°-90°	90.5	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°	1558.0	29.4
0°-40°	2499.3	47.2
0°-60°	4259.1	80.4
0°-90°	5298.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5298.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2082	2082	2082	2082	2082	
5°	2082	2075	2052	2068	2065	198
15°	1982	1970	1944	1952	1942	558
25°	1794	1778	1744	1748	1744	826
35°	1548	1528	1496	1484	1474	967
45°	1260	1246	1215	1194	1186	972
55°	953	941	917	893	883	852
65°	643	631	611	593	583	636
75°	336	332	322	310	314	359
85°	82	80	78	72	70	96
90°	0	0	0	0	0	

TEST NUMBER: P931493

CATALOG NUMBER: DFN2DS-TR4F0-060DS940-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2082.5	2082.5	2082.5	2082.5	2082.5
2.5°	2094.6	2084.6	2062.5	2082.5	2078.6
5°	2082.5	2074.6	2052.5	2068.5	2064.6
7.5°	2068.5	2056.6	2034.5	2050.6	2046.6
10°	2046.6	2032.6	2008.5	2024.5	2018.5
12.5°	2016.5	2004.5	1980.5	1990.5	1986.5
15°	1982.4	1970.5	1944.4	1952.5	1942.5
17.5°	1940.4	1928.5	1902.4	1912.3	1902.4
20°	1894.3	1882.4	1854.3	1860.3	1852.4
22.5°	1848.4	1830.3	1804.2	1804.2	1800.1
25°	1794.2	1778.3	1744.2	1748.1	1744.2
27.5°	1734.0	1720.0	1694.1	1688.2	1678.2
30°	1674.2	1658.0	1628.1	1622.1	1614.0
32.5°	1610.0	1598.1	1566.0	1553.9	1545.8
35°	1548.0	1528.0	1495.9	1483.8	1473.8
37.5°	1477.9	1459.8	1427.7	1413.6	1403.7
40°	1405.8	1389.6	1357.6	1339.8	1331.7
42.5°	1335.7	1319.5	1287.7	1267.5	1255.6
45°	1259.7	1245.6	1215.4	1193.6	1185.5
47.5°	1185.5	1171.5	1139.4	1117.3	1105.4
50°	1107.3	1097.3	1069.3	1041.2	1031.2
52.5°	1031.2	1017.2	991.3	969.2	955.2
55°	953.3	941.1	917.2	893.2	883.2
57.5°	875.1	865.2	839.0	815.0	806.9
60°	796.9	789.1	761.1	738.9	733.0
62.5°	720.8	706.8	686.8	666.9	658.8
65°	642.9	630.8	610.8	592.7	582.7
67.5°	562.8	552.6	534.8	520.7	512.6
70°	488.6	480.6	462.5	448.5	440.6
72.5°	412.6	404.5	394.5	380.5	374.6
75°	336.3	332.5	322.3	310.4	314.4
77.5°	268.3	260.3	256.2	250.3	244.3
80°	200.3	198.2	194.2	188.2	184.2
82.5°	136.2	136.2	134.2	126.2	126.2
85°	82.0	80.1	78.1	72.0	70.1
87.5°	36.1	32.1	28.0	22.1	20.0
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931493

CATALOG NUMBER: DFN2DS-TR4F0-060DS940-FLL

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	13.03	14.64	13.40	14.96	15.27	12.59	14.20	12.95	14.51	14.83
	3H	14.78	16.24	15.16	16.56	16.92	14.29	15.75	14.67	16.07	16.43
	4H	15.43	16.80	15.83	17.15	17.52	14.93	16.30	15.33	16.65	17.03
	6H	15.90	17.17	16.31	17.53	17.92	15.40	16.66	15.81	17.03	17.42
	8H	16.04	17.25	16.47	17.64	18.04	15.54	16.75	15.96	17.14	17.54
	12H	16.13	17.29	16.56	17.67	18.10	15.62	16.78	16.05	17.16	17.59
4H	2H	13.59	14.96	13.99	15.31	15.69	13.24	14.61	13.64	14.96	15.33
	3H	15.57	16.71	15.98	17.11	17.51	15.16	16.31	15.57	16.70	17.10
	4H	16.34	17.38	16.78	17.79	18.23	15.92	16.96	16.35	17.37	17.81
	6H	16.94	17.85	17.39	18.29	18.74	16.51	17.41	16.96	17.85	18.31
	8H	17.13	17.98	17.59	18.42	18.88	16.69	17.54	17.15	17.98	18.45
	12H	17.26	18.02	17.74	18.50	18.97	16.81	17.57	17.29	18.05	18.51
8H	4H	16.62	17.46	17.08	17.91	18.37	16.24	17.09	16.70	17.53	18.00
	6H	17.33	18.03	17.83	18.52	19.00	16.95	17.65	17.44	18.14	18.62
	8H	17.59	18.22	18.10	18.73	19.21	17.20	17.83	17.71	18.34	18.82
	12H	17.79	18.35	18.30	18.84	19.40	17.38	17.93	17.88	18.43	18.99
12H	4H	16.64	17.40	17.12	17.88	18.35	16.28	17.04	16.76	17.51	17.98
	6H	17.38	18.01	17.89	18.52	19.00	17.01	17.64	17.52	18.15	18.63
	8H	17.69	18.25	18.20	18.74	19.30	17.31	17.87	17.82	18.36	18.92