

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: P931358

Luminaire Tested: DFN2DS-TR3F0-050DS840-RLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931358
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-TR3F0-050DS840-RLL
Description: 3 foot, Triangle Define Geo, with Direct 1in Regressed Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

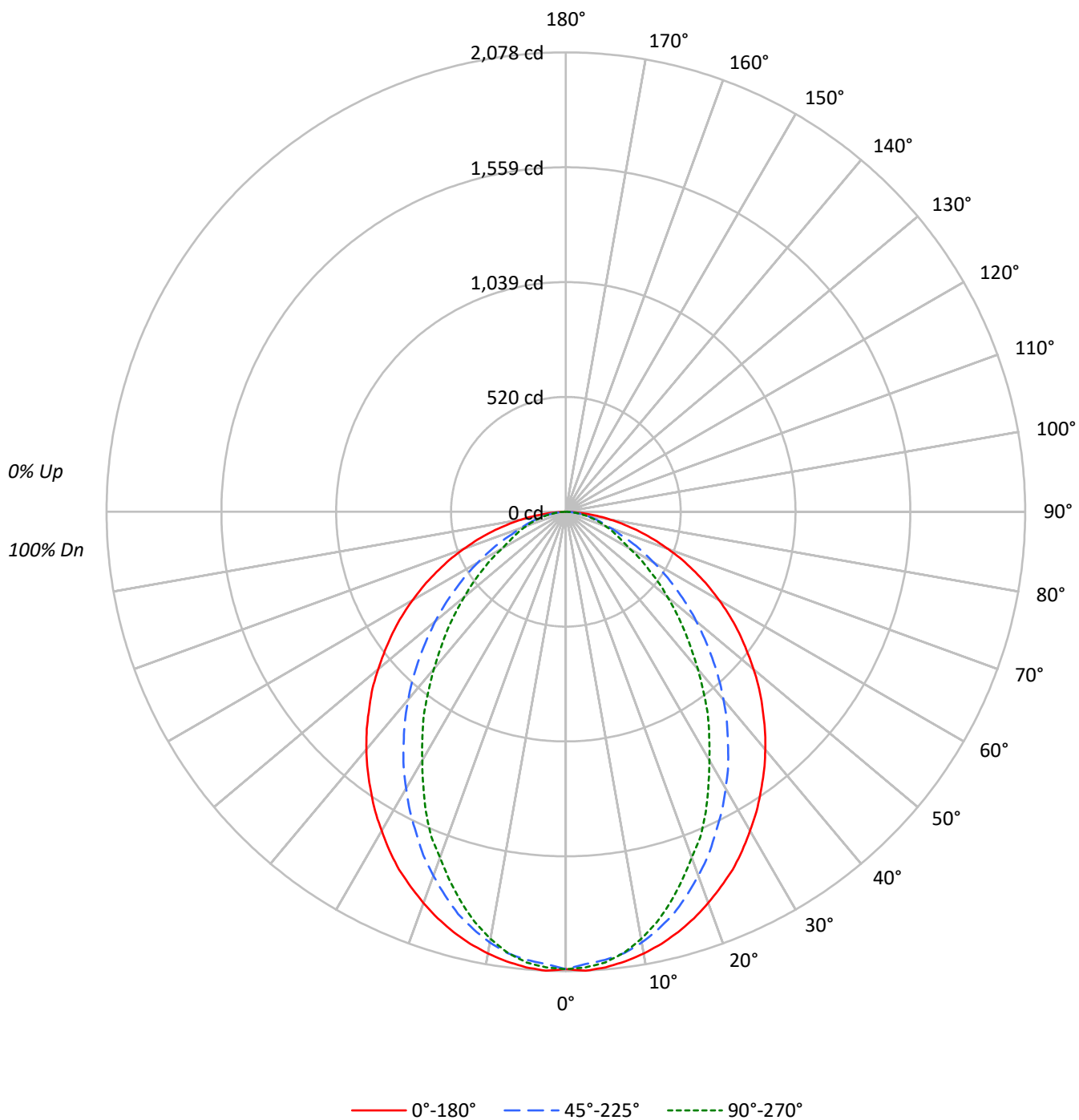
Lumens per Lamp: N/A
Luminaire Lumens: 4254.3 lumens
Efficiency: N/A
Efficacy: 85.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 3.16' x L: 2.74' x H: 0')
CIE Type: Direct

Input Watts (W): 49.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9933
Total Harmonic Distortion (THDi): 0.066
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P931358

CATALOG NUMBER: DFN2DS-TR3F0-050DS840-RLL

Luminous Intensity Polar Plot



TEST NUMBER: P931358

CATALOG NUMBER: DFN2DS-TR3F0-050DS840-RLL

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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	110	106	102	98	107	103	100	97	99	96	94		95	93	91		92	90	88		86
2	101	94	87	82	98	92	86	81	88	83	79		85	81	78		82	79	76		74
3	93	83	76	70	90	82	75	69	79	73	68		76	71	67		74	69	66		64
4	86	75	66	60	83	73	66	60	71	64	59		69	63	58		66	62	57		55
5	79	67	59	53	77	66	58	52	64	57	52		62	56	51		60	55	51		49
6	74	61	53	47	72	60	52	46	58	51	46		57	50	46		55	50	45		43
7	68	56	47	42	67	55	47	42	53	46	41		52	46	41		51	45	41		39
8	64	51	43	38	62	51	43	37	49	42	37		48	42	37		47	41	37		35
9	60	47	39	34	59	47	39	34	46	39	34		44	38	34		44	38	34		32
10	56	44	36	31	55	43	36	31	42	36	31		41	35	31		41	35	31		29

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2578	2578	2578
5°	2588	2545	2559
10°	2568	2504	2482
15°	2538	2430	2360
20°	2497	2324	2207
25°	2455	2203	2059
30°	2397	2079	1869
35°	2341	1945	1703
40°	2284	1806	1510
45°	2217	1649	1336
50°	2149	1492	1165
55°	2078	1322	1001
60°	1997	1143	830
65°	1904	960	756
70°	1794	791	696
75°	1658	721	649
80°	1464	644	591
85°	1151	508	508

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2217 cd/sqm

TEST NUMBER: P931358

CATALOG NUMBER: DFN2DS-TR3F0-050DS840-RLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.9	4.6
10°-20°	532.2	12.5
20°-30°	747.2	17.6
30°-40°	814.5	19.1
40°-50°	748.6	17.6
50°-60°	587.9	13.8
60°-70°	382.7	9.0
70°-80°	197.0	4.6
80°-90°	50.3	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°	1473.3	34.6
0°-40°	2287.8	53.8
0°-60°	3624.3	85.2
0°-90°	4254.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4254.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2069	2069	2069	2069	2069	
5°	2069	2059	2035	2052	2046	196
15°	1968	1947	1883	1848	1829	554
25°	1786	1726	1602	1526	1498	821
35°	1539	1443	1279	1161	1119	963
45°	1258	1132	936	803	758	972
55°	957	810	608	496	461	855
65°	646	494	326	262	256	640
75°	344	213	150	137	135	364
85°	80	41	36	36	36	96
90°	0	0	0	0	0	

TEST NUMBER: P931358

CATALOG NUMBER: DFN2DS-TR3F0-050DS840-RLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2068.6	2068.6	2068.6	2068.6	2068.6
2.5°	2077.9	2068.6	2047.9	2066.8	2063.0
5°	2068.6	2059.3	2034.8	2051.6	2046.1
7.5°	2051.6	2040.5	2014.3	2021.7	2012.3
10°	2029.2	2016.1	1978.8	1973.1	1961.9
12.5°	2001.2	1984.4	1933.7	1922.6	1901.9
15°	1967.5	1946.8	1883.3	1847.7	1829.0
17.5°	1928.1	1898.2	1819.5	1778.4	1748.3
20°	1883.3	1845.7	1752.2	1705.5	1664.2
22.5°	1834.6	1791.5	1682.9	1619.3	1591.3
25°	1785.9	1725.9	1602.4	1525.7	1497.5
27.5°	1727.9	1664.2	1527.5	1439.5	1396.5
30°	1666.2	1594.9	1445.1	1349.7	1299.1
32.5°	1606.2	1520.0	1366.7	1254.3	1207.4
35°	1538.8	1443.3	1278.7	1160.7	1119.4
37.5°	1473.3	1370.3	1196.3	1067.0	1020.3
40°	1404.0	1291.8	1110.0	977.2	928.5
42.5°	1332.9	1213.1	1024.0	885.4	838.7
45°	1258.1	1132.5	936.0	803.0	758.1
47.5°	1186.9	1054.1	851.9	718.8	677.7
50°	1108.3	975.4	769.5	640.1	601.0
52.5°	1031.4	891.0	690.8	567.3	531.7
55°	956.6	810.5	608.3	496.1	460.6
57.5°	879.9	730.1	535.4	430.6	400.6
60°	801.2	651.5	458.6	363.3	333.2
62.5°	724.5	574.8	393.1	303.3	288.4
65°	645.8	494.2	325.7	262.2	256.5
67.5°	571.0	419.3	262.2	230.2	224.6
70°	492.4	346.3	217.1	198.4	190.9
72.5°	417.5	278.9	181.6	166.7	162.9
75°	344.4	213.3	149.7	136.6	134.8
77.5°	271.5	151.6	118.0	110.4	106.6
80°	204.0	108.6	89.8	82.4	82.4
82.5°	142.2	73.1	61.8	58.0	58.0
85°	80.5	41.1	35.5	35.5	35.5
87.5°	30.0	14.9	14.9	13.1	13.1
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931358

CATALOG NUMBER: DFN2DS-TR3F0-050DS840-RLL

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	14.52	16.05	14.89	16.36	16.67	10.49	12.01	10.85	12.32	12.63
	3H	16.29	17.66	16.67	17.98	18.34	11.75	13.12	12.13	13.44	13.81
	4H	16.96	18.24	17.36	18.59	18.96	12.25	13.53	12.65	13.88	14.26
	6H	17.45	18.63	17.86	18.99	19.39	12.63	13.82	13.04	14.18	14.57
	8H	17.61	18.74	18.04	19.13	19.53	12.76	13.88	13.18	14.27	14.67
	12H	17.71	18.79	18.14	19.17	19.60	12.84	13.92	13.27	14.30	14.73
4H	2H	14.63	15.91	15.03	16.26	16.64	11.18	12.46	11.58	12.81	13.19
	3H	16.56	17.62	16.97	18.02	18.43	12.62	13.69	13.03	14.09	14.49
	4H	17.31	18.27	17.74	18.68	19.12	13.22	14.18	13.66	14.59	15.03
	6H	17.90	18.73	18.36	19.18	19.64	13.71	14.54	14.17	14.99	15.45
	8H	18.12	18.89	18.58	19.34	19.81	13.87	14.65	14.34	15.09	15.56
	12H	18.27	18.97	18.75	19.44	19.91	13.99	14.68	14.47	15.16	15.63
8H	4H	17.34	18.11	17.80	18.56	19.02	13.58	14.35	14.04	14.80	15.27
	6H	17.97	18.62	18.47	19.11	19.58	14.16	14.81	14.66	15.30	15.77
	8H	18.22	18.80	18.74	19.31	19.80	14.38	14.96	14.90	15.47	15.96
	12H	18.43	18.94	18.94	19.43	19.99	14.56	15.07	15.07	15.56	16.13
12H	4H	17.32	18.01	17.80	18.49	18.96	13.62	14.31	14.10	14.79	15.26
	6H	17.95	18.53	18.47	19.04	19.53	14.23	14.80	14.74	15.31	15.80
	8H	18.24	18.75	18.75	19.24	19.80	14.50	15.01	15.01	15.50	16.07