

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: P931461

Luminaire Tested: DFN2DS-TR4F0-050DS830-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931461
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-TR4F0-050DS830-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

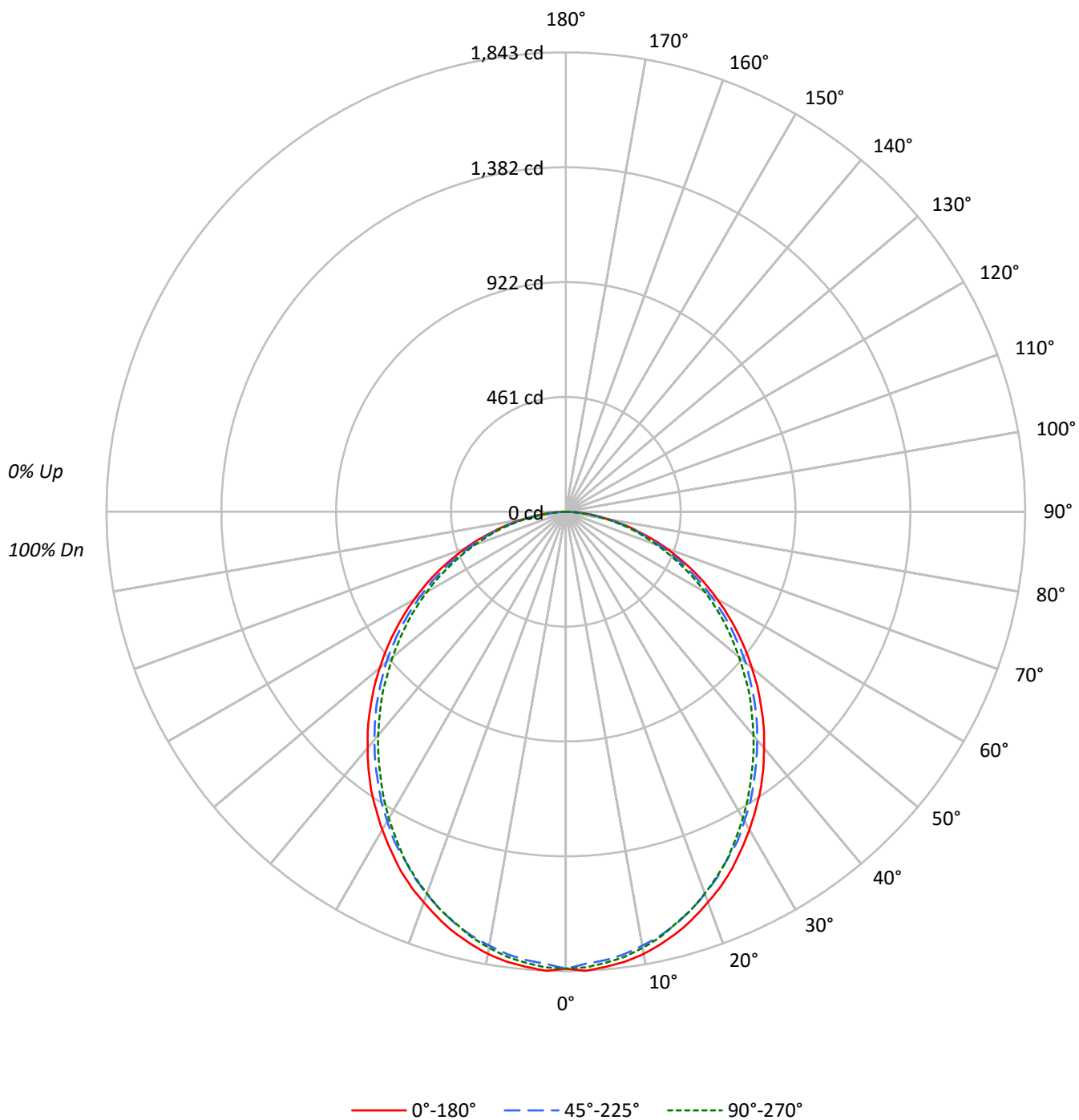
Lumens per Lamp: N/A
Luminaire Lumens: 4662.9 lumens
Efficiency: N/A
Efficacy: 96.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

Input Watts (W): 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

TEST NUMBER: P931461

CATALOG NUMBER: DFN2DS-TR4F0-050DS830-FLL

Luminous Intensity Polar Plot



TEST NUMBER: P931461

CATALOG NUMBER: DFN2DS-TR4F0-050DS830-FLL

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	1456	1456	1456
5°	1462	1440	1449
10°	1453	1426	1433
15°	1435	1407	1406
20°	1409	1380	1378
25°	1384	1346	1346
30°	1352	1314	1303
35°	1321	1277	1258
40°	1283	1239	1215
45°	1245	1202	1172
50°	1204	1163	1122
55°	1162	1118	1076
60°	1114	1064	1025
65°	1064	1010	964
70°	999	945	901
75°	909	870	850
80°	807	782	742
85°	658	627	562

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
Vertical Angle: 45°
Luminance: 1245 cd/sqm

TEST NUMBER: P931461

CATALOG NUMBER: DFN2DS-TR4F0-050DS830-FLL

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.5	3.7
10°-20°	485.3	10.4
20°-30°	713.2	15.3
30°-40°	828.4	17.8
40°-50°	827.4	17.7
50°-60°	721.4	15.5
60°-70°	533.3	11.4
70°-80°	301.7	6.5
80°-90°	79.6	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°	1371.1	29.4
0°-40°	2199.4	47.2
0°-60°	3748.2	80.4
0°-90°	4662.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4662.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1833	1833	1833	1833	1833	
5°	1833	1826	1806	1820	1817	174
15°	1745	1734	1711	1718	1709	491
25°	1579	1565	1535	1538	1535	727
35°	1362	1345	1316	1306	1297	851
45°	1108	1096	1070	1050	1043	856
55°	839	828	807	786	777	750
65°	566	555	538	522	513	559
75°	296	293	284	273	277	316
85°	72	70	69	63	62	85
90°	0	0	0	0	0	

TEST NUMBER: P931461

CATALOG NUMBER: DFN2DS-TR4F0-050DS830-FLL

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1832.7	1832.7	1832.7	1832.7	1832.7
2.5°	1843.3	1834.5	1815.1	1832.7	1829.4
5°	1832.7	1825.8	1806.3	1820.3	1817.0
7.5°	1820.3	1809.9	1790.5	1804.7	1801.1
10°	1801.1	1788.8	1767.7	1781.6	1776.4
12.5°	1774.5	1764.1	1743.0	1751.7	1748.2
15°	1744.6	1734.1	1711.1	1718.3	1709.4
17.5°	1707.6	1697.1	1674.1	1682.9	1674.1
20°	1667.1	1656.6	1631.9	1637.1	1630.2
22.5°	1626.6	1610.7	1587.7	1587.7	1584.2
25°	1579.0	1564.9	1535.0	1538.4	1535.0
27.5°	1526.0	1513.7	1490.9	1485.6	1476.9
30°	1473.3	1459.2	1432.8	1427.5	1420.4
32.5°	1416.9	1406.4	1378.1	1367.5	1360.4
35°	1362.2	1344.7	1316.4	1305.8	1297.0
37.5°	1300.5	1284.7	1256.4	1244.1	1235.3
40°	1237.2	1223.0	1194.7	1179.0	1171.9
42.5°	1175.5	1161.3	1133.2	1115.4	1105.0
45°	1108.5	1096.2	1069.6	1050.4	1043.3
47.5°	1043.3	1030.9	1002.8	983.3	972.8
50°	974.5	965.7	941.1	916.4	907.5
52.5°	907.5	895.2	872.4	853.0	840.6
55°	838.9	828.3	807.1	786.0	777.2
57.5°	770.1	761.3	738.3	717.2	710.1
60°	701.3	694.4	669.8	650.3	645.1
62.5°	634.4	622.1	604.5	586.9	579.8
65°	565.8	555.1	537.5	521.7	512.8
67.5°	495.3	486.4	470.6	458.3	451.1
70°	430.0	423.0	407.0	394.7	387.8
72.5°	363.1	356.0	347.2	334.9	329.6
75°	296.0	292.6	283.6	273.2	276.8
77.5°	236.2	229.0	225.5	220.2	215.1
80°	176.3	174.5	170.9	165.7	162.1
82.5°	119.8	119.8	118.1	111.1	111.1
85°	72.2	70.5	68.8	63.4	61.7
87.5°	31.7	28.3	24.7	19.4	17.6
90°	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P931461

CATALOG NUMBER: DFN2DS-TR4F0-050DS830-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	12.59	14.20	12.95	14.51	14.83	12.14	13.75	12.51	14.07	14.38
	3H	14.34	15.79	14.71	16.12	16.48	13.85	15.30	14.22	15.63	15.99
	4H	14.98	16.35	15.38	16.70	17.08	14.49	15.86	14.89	16.21	16.58
	6H	15.45	16.72	15.86	17.09	17.48	14.95	16.22	15.36	16.59	16.98
	8H	15.60	16.81	16.02	17.20	17.60	15.09	16.30	15.52	16.69	17.09
	12H	15.69	16.85	16.12	17.23	17.66	15.17	16.33	15.60	16.72	17.15
4H	2H	13.15	14.52	13.55	14.86	15.24	12.80	14.16	13.19	14.51	14.89
	3H	15.12	16.27	15.53	16.67	17.07	14.72	15.86	15.13	16.26	16.66
	4H	15.90	16.94	16.33	17.35	17.79	15.48	16.51	15.91	16.93	17.36
	6H	16.50	17.40	16.95	17.84	18.30	16.06	16.97	16.52	17.41	17.87
	8H	16.69	17.53	17.15	17.97	18.44	16.25	17.09	16.71	17.54	18.00
	12H	16.82	17.58	17.30	18.05	18.52	16.37	17.13	16.85	17.60	18.07
8H	4H	16.17	17.02	16.63	17.46	17.93	15.80	16.65	16.26	17.09	17.55
	6H	16.89	17.59	17.38	18.08	18.55	16.51	17.21	17.00	17.70	18.17
	8H	17.15	17.78	17.66	18.28	18.77	16.76	17.39	17.27	17.89	18.38
	12H	17.35	17.90	17.85	18.39	18.96	16.93	17.49	17.44	17.98	18.54
12H	4H	16.20	16.96	16.68	17.43	17.90	15.83	16.59	16.31	17.07	17.54
	6H	16.93	17.56	17.44	18.07	18.56	16.56	17.20	17.07	17.70	18.19
	8H	17.25	17.80	17.75	18.29	18.86	16.87	17.43	17.38	17.92	18.48