

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: P931477

Luminaire Tested: DFN2DS-TR4F0-050DS950-FLL

Issue Date: 11/20/2024

Test Information

Test Method: LM-79-2019
Report Number: P931477
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-TR4F0-050DS950-FLL
Description: 4 foot, Triangle Define Geo, with Direct Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

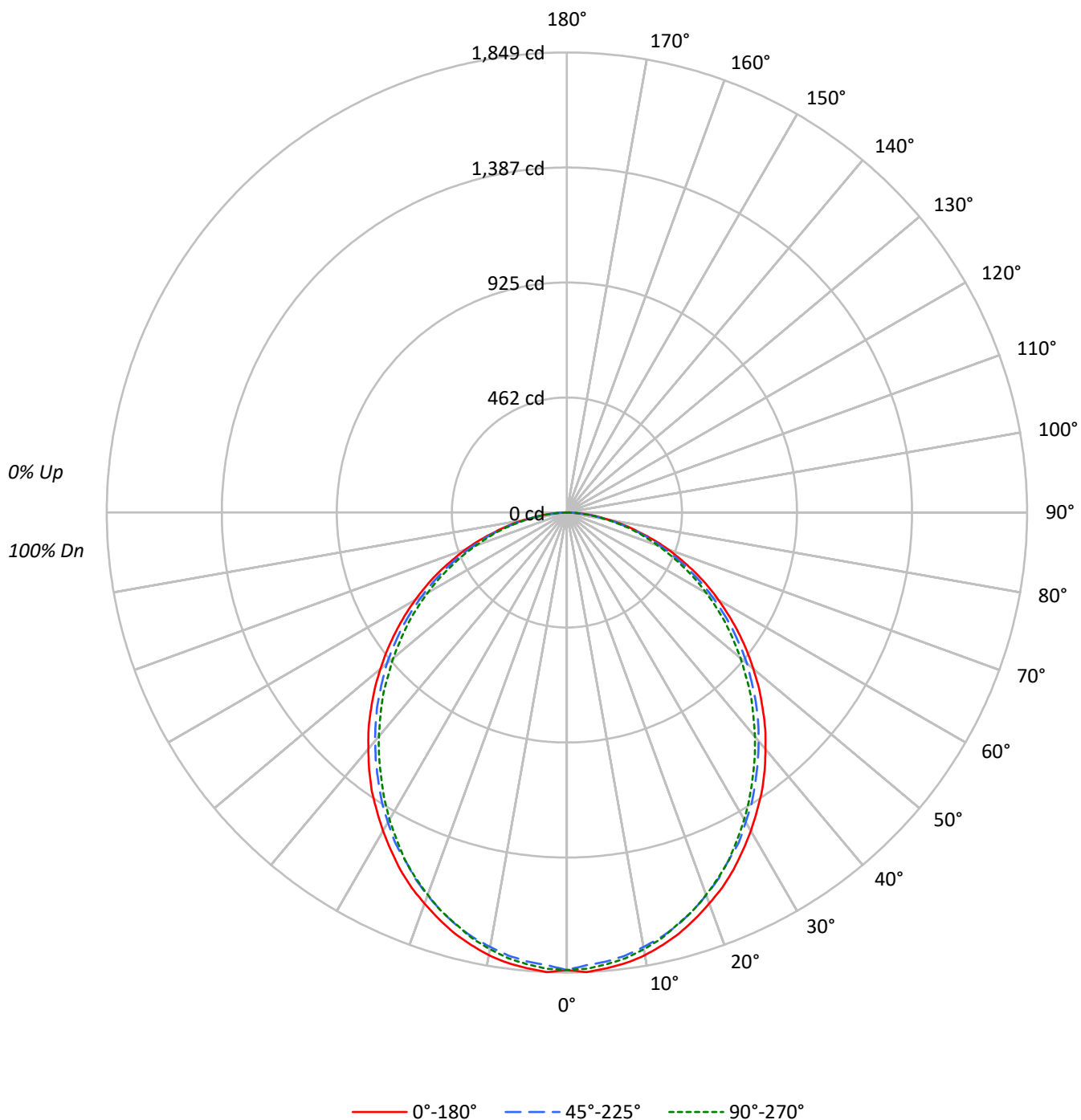
Lumens per Lamp: N/A
Luminaire Lumens: 4677.7 lumens
Efficiency: N/A
Efficacy: 97.0 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 3.96' x L: 3.43' x H: 0')
CIE Type: Direct

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

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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	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°	1461	1461	1461
5°	1466	1445	1454
10°	1458	1431	1438
15°	1439	1412	1410
20°	1414	1384	1383
25°	1388	1350	1350
30°	1356	1318	1307
35°	1325	1281	1262
40°	1287	1243	1219
45°	1249	1206	1176
50°	1208	1167	1125
55°	1166	1121	1080
60°	1118	1068	1028
65°	1067	1014	967
70°	1002	948	904
75°	911	873	852
80°	809	784	744
85°	660	629	564

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 1249 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	173.0	3.7
10°-20°	486.9	10.4
20°-30°	715.5	15.3
30°-40°	831.0	17.8
40°-50°	830.0	17.7
50°-60°	723.7	15.5
60°-70°	535.0	11.4
70°-80°	302.7	6.5
80°-90°	79.9	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°	1375.4	29.4
0°-40°	2206.5	47.2
0°-60°	3760.2	80.4
0°-90°	4677.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4677.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1838	1838	1838	1838	1838	
5°	1838	1832	1812	1826	1823	175
15°	1750	1740	1717	1724	1715	493
25°	1584	1570	1540	1543	1540	729
35°	1367	1349	1321	1310	1301	853
45°	1112	1100	1073	1054	1047	858
55°	842	831	810	788	780	752
65°	568	557	539	523	514	561
75°	297	294	284	274	278	317
85°	72	71	69	64	62	85
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1838.5	1838.5	1838.5	1838.5	1838.5
2.5°	1849.2	1840.4	1820.9	1838.5	1835.2
5°	1838.5	1831.6	1812.0	1826.1	1822.8
7.5°	1826.1	1815.6	1796.2	1810.4	1806.8
10°	1806.8	1794.5	1773.3	1787.3	1782.1
12.5°	1780.2	1769.7	1748.5	1757.3	1753.7
15°	1750.1	1739.7	1716.6	1723.8	1714.9
17.5°	1713.0	1702.5	1679.5	1688.2	1679.5
20°	1672.4	1661.9	1637.1	1642.3	1635.4
22.5°	1631.8	1615.9	1592.8	1592.8	1589.2
25°	1584.0	1569.9	1539.9	1543.3	1539.9
27.5°	1530.9	1518.5	1495.7	1490.4	1481.6
30°	1478.0	1463.8	1437.3	1432.1	1425.0
32.5°	1421.4	1410.9	1382.5	1371.9	1364.8
35°	1366.6	1349.0	1320.6	1310.0	1301.2
37.5°	1304.7	1288.8	1260.4	1248.1	1239.3
40°	1241.2	1226.9	1198.5	1182.8	1175.7
42.5°	1179.3	1165.0	1136.8	1119.0	1108.5
45°	1112.1	1099.7	1073.0	1053.8	1046.6
47.5°	1046.6	1034.2	1006.0	986.4	975.9
50°	977.6	968.8	944.1	919.3	910.4
52.5°	910.4	898.0	875.2	855.7	843.3
55°	841.6	830.9	809.7	788.5	779.7
57.5°	772.5	763.7	740.7	719.5	712.3
60°	703.6	696.7	671.9	652.3	647.1
62.5°	636.5	624.1	606.4	588.7	581.6
65°	567.6	556.9	539.2	523.3	514.5
67.5°	496.9	487.9	472.1	459.7	452.6
70°	431.4	424.3	408.3	396.0	389.1
72.5°	364.3	357.1	348.3	335.9	330.7
75°	296.9	293.5	284.5	274.0	277.6
77.5°	236.9	229.7	226.2	220.9	215.7
80°	176.9	175.0	171.4	166.2	162.6
82.5°	120.2	120.2	118.5	111.4	111.4
85°	72.4	70.7	69.0	63.6	61.9
87.5°	31.8	28.4	24.8	19.5	17.7
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	12.60	14.21	12.96	14.52	14.84	12.15	13.76	12.52	14.08	14.39
	3H	14.35	15.80	14.73	16.13	16.49	13.86	15.31	14.23	15.64	16.00
	4H	14.99	16.36	15.39	16.71	17.09	14.50	15.87	14.90	16.22	16.59
	6H	15.46	16.73	15.88	17.10	17.49	14.96	16.23	15.37	16.60	16.99
	8H	15.61	16.82	16.03	17.21	17.61	15.10	16.32	15.53	16.70	17.10
	12H	15.70	16.86	16.13	17.24	17.67	15.19	16.35	15.61	16.73	17.16
4H	2H	13.16	14.53	13.56	14.88	15.25	12.81	14.18	13.20	14.52	14.90
	3H	15.13	16.28	15.54	16.68	17.08	14.73	15.87	15.14	16.27	16.67
	4H	15.91	16.95	16.34	17.36	17.80	15.49	16.52	15.92	16.94	17.37
	6H	16.51	17.41	16.96	17.85	18.31	16.07	16.98	16.53	17.42	17.88
	8H	16.70	17.54	17.16	17.99	18.45	16.26	17.11	16.72	17.55	18.01
	12H	16.83	17.59	17.31	18.06	18.53	16.38	17.14	16.86	17.61	18.08
8H	4H	16.18	17.03	16.64	17.47	17.94	15.81	16.66	16.27	17.10	17.56
	6H	16.90	17.60	17.39	18.09	18.56	16.52	17.22	17.01	17.71	18.18
	8H	17.16	17.79	17.67	18.29	18.78	16.77	17.40	17.28	17.90	18.39
	12H	17.36	17.91	17.86	18.41	18.97	16.94	17.50	17.45	17.99	18.55
12H	4H	16.21	16.97	16.69	17.45	17.92	15.85	16.61	16.33	17.08	17.55
	6H	16.94	17.58	17.45	18.08	18.57	16.57	17.21	17.08	17.71	18.20
	8H	17.26	17.82	17.76	18.31	18.87	16.88	17.44	17.39	17.93	18.49