

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: P926144

Luminaire Tested: DFN2DIP-TR2F0-050D020US950-FLLFLL

Issue Date: 11/21/2024

Test Information

Test Method: LM-79-2019
Report Number: P926144
REPORT IS A COMBINATION OF REPORTS P900227 AND P897145
Test Lab: INNOVATION CENTER
Issue Date: 11/21/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: DFN2DIP-TR2F0-050D020US950-FLLFLL
Description: 2 foot, Triangle Define Geo, with Direct Frosted Lens, Indirect Frosted Lens
Light Source: -
Ballast/Driver: -

Summary

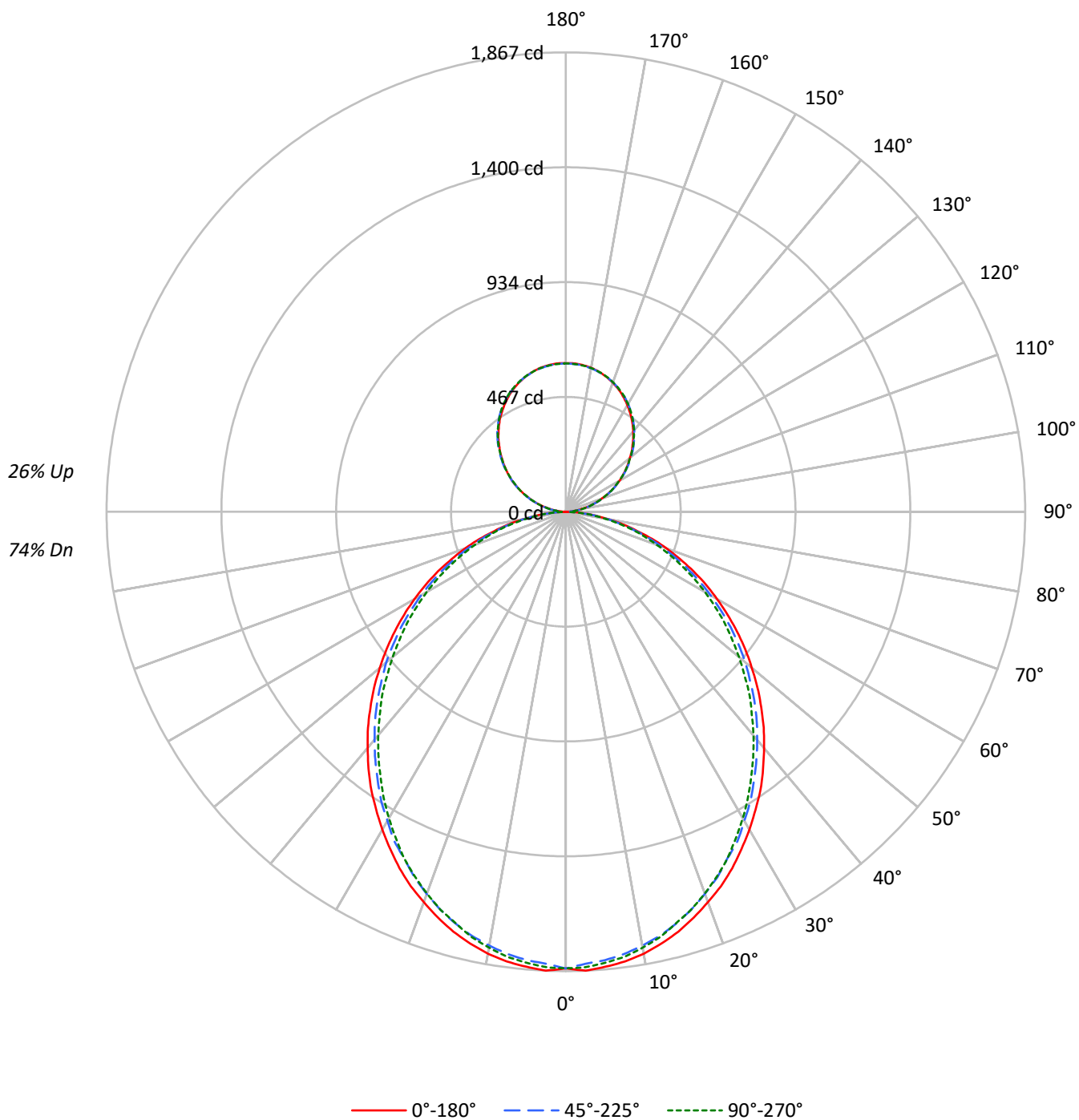
Lumens per Lamp: N/A
Luminaire Lumens: 6410.9 lumens
Efficiency: N/A
Efficacy: 102.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular w/ Sides (W: 2.04' x L: 2.36' x H: 0.1')
CIE Type: Semi-Direct

Input Watts (W): 62.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.9789
Total Harmonic Distortion (THDi): 0.074
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	113	113	113	113	107	107	107	107	96	96	96		87	87	87		78
1	103	99	95	91	98	94	90	87	85	82	80		77	74	72		69
2	94	86	80	74	89	82	76	71	74	70	66		67	64	61		61
3	86	76	68	62	81	72	65	60	66	60	55		59	55	51		54
4	79	67	59	53	74	64	57	51	58	52	47		53	48	44		48
5	72	60	52	45	68	57	50	44	52	46	41		48	42	38		43
6	67	54	46	40	63	52	44	38	47	41	36		43	38	34		39
7	62	49	41	35	58	47	39	34	43	37	32		39	34	30		36
8	57	45	37	31	54	43	35	30	39	33	28		36	31	27		33
9	54	41	33	28	51	39	32	27	36	30	26		33	28	24		31
10	50	38	30	25	48	36	29	24	33	27	23		31	26	22		28

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4140	4140	4140
5°	4140	4073	4103
10°	4100	4009	4040
15°	4034	3933	3946
20°	3946	3833	3850
25°	3859	3714	3740
30°	3751	3603	3603
35°	3648	3473	3458
40°	3523	3342	3320
45°	3397	3210	3177
50°	3260	3071	3014
55°	3115	2910	2861
60°	2952	2722	2687
65°	2772	2524	2481
70°	2544	2283	2258
75°	2230	1995	2043
80°	1850	1628	1651
85°	1260	1025	1026

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3397 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	174.7	2.7
10°-20°	491.5	7.7
20°-30°	722.3	11.3
30°-40°	838.9	13.1
40°-50°	837.9	13.1
50°-60°	730.6	11.4
60°-70°	540.1	8.4
70°-80°	305.6	4.8
80°-90°	82.4	1.3
90°-100°	37.3	0.6
100°-110°	118.7	1.9
110°-120°	203.0	3.2
120°-130°	267.0	4.2
130°-140°	299.7	4.7
140°-150°	293.9	4.6
150°-160°	246.5	3.8
160°-170°	163.5	2.6
170°-180°	57.1	0.9
0°-30°	1388.5	21.7
0°-40°	2227.5	34.7
0°-60°	3796.0	59.2
0°-90°	4724.0	73.7
90°-120°	359.0	5.6
90°-150°	1219.7	19.0
90°-180°	1687.0	26.3
0°-180°	6410.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1856	1856	1856	1856	1856	
5°	1856	1849	1829	1844	1840	176
15°	1767	1756	1733	1740	1731	498
25°	1599	1585	1554	1558	1554	736
35°	1380	1362	1333	1322	1314	862
45°	1123	1110	1083	1064	1057	866
55°	850	839	817	796	787	760
65°	573	562	544	528	519	567
75°	300	296	287	277	280	320
85°	73	71	70	64	62	82
90°	1	7	18	17	17	6
95°	26	32	32	32	32	30
105°	110	111	112	113	113	116
115°	204	207	206	205	204	202
125°	296	301	300	298	297	265
135°	383	389	390	390	388	296
145°	465	469	472	472	470	291
155°	532	534	535	538	536	245
165°	579	578	578	582	580	163
175°	602	601	600	603	600	57
180°	603	603	603	603	603	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1856.0	1856.0	1856.0	1856.0	1856.0
2.5°	1866.8	1857.9	1838.3	1856.0	1852.7
5°	1856.0	1849.0	1829.3	1843.5	1840.2
7.5°	1843.5	1832.9	1813.3	1827.7	1824.0
10°	1824.0	1811.6	1790.2	1804.3	1799.1
12.5°	1797.1	1786.6	1765.2	1774.1	1770.4
15°	1766.8	1756.2	1732.9	1740.2	1731.2
17.5°	1729.3	1718.7	1695.4	1704.3	1695.4
20°	1688.3	1677.7	1652.7	1658.0	1651.0
22.5°	1647.4	1631.2	1608.0	1608.0	1604.3
25°	1599.1	1584.9	1554.5	1558.0	1554.5
27.5°	1545.5	1533.0	1509.9	1504.6	1495.7
30°	1492.1	1477.7	1451.0	1445.7	1438.5
32.5°	1434.9	1424.3	1395.7	1384.9	1377.8
35°	1379.6	1361.8	1333.2	1322.4	1313.6
37.5°	1317.1	1301.1	1272.4	1259.9	1251.1
40°	1253.0	1238.6	1210.0	1194.0	1186.9
42.5°	1190.5	1176.1	1147.7	1129.6	1119.0
45°	1122.7	1110.2	1083.3	1063.8	1056.6
47.5°	1056.6	1044.1	1015.5	995.8	985.2
50°	986.9	978.0	953.0	928.1	919.1
52.5°	919.1	906.6	883.5	863.8	851.3
55°	849.6	838.9	817.4	796.0	787.1
57.5°	779.9	771.0	747.7	726.4	719.1
60°	710.3	703.3	678.3	658.5	653.3
62.5°	642.5	630.0	612.2	594.3	587.2
65°	573.0	562.2	544.4	528.3	519.4
67.5°	501.6	492.6	476.6	464.1	456.9
70°	435.5	428.3	412.2	399.7	392.8
72.5°	367.8	360.5	351.6	339.1	333.8
75°	299.7	296.3	287.2	276.7	280.3
77.5°	239.2	231.9	228.4	223.0	217.8
80°	178.6	176.7	173.1	167.8	164.2
82.5°	121.3	121.3	119.6	112.5	112.5
85°	73.1	71.4	69.6	64.2	62.5
87.5°	32.1	28.6	25.0	19.7	17.8
90°	0.6	6.6	17.8	16.7	17.3
92.5°	11.3	15.3	15.8	16.4	16.4
95°	26.5	31.7	32.5	32.5	31.7
97.5°	44.2	48.9	50.9	50.9	50.9
100°	64.6	68.8	70.2	70.2	69.6
102.5°	86.1	89.1	91.1	91.7	91.1
105°	109.5	111.0	112.1	113.0	113.0
107.5°	132.8	135.0	135.0	135.4	132.8
110°	155.4	158.3	158.3	158.3	156.8

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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°
112.5°	179.7	182.8	182.3	180.8	179.7
115°	203.8	206.6	205.8	205.2	203.8
117.5°	227.6	231.6	229.1	227.6	226.1
120°	251.6	255.6	251.6	251.6	249.9
122.5°	273.4	278.5	276.0	274.6	273.4
125°	296.3	300.9	299.5	297.8	297.3
127.5°	318.7	324.4	322.4	320.2	318.7
130°	339.6	346.2	345.3	344.2	342.2
132.5°	363.1	368.2	368.5	366.0	364.5
135°	383.3	388.9	390.0	389.5	388.0
137.5°	405.8	410.4	411.4	411.0	408.8
140°	425.7	430.3	432.8	432.8	430.8
142.5°	446.1	450.6	452.1	452.6	450.6
145°	465.4	469.0	471.9	472.4	470.4
147.5°	482.6	487.2	489.4	490.3	488.3
150°	500.5	503.5	505.5	507.1	505.5
152.5°	516.3	519.4	521.9	523.9	521.9
155°	532.1	533.6	535.2	537.8	536.1
157.5°	545.8	546.8	547.8	551.4	548.8
160°	558.0	559.0	559.6	562.7	560.5
162.5°	569.3	569.3	569.7	573.3	570.7
165°	578.9	578.3	578.3	581.9	579.5
167.5°	587.6	585.9	585.9	589.6	587.1
170°	594.2	592.7	592.1	595.8	592.7
172.5°	598.7	597.2	596.7	600.4	597.2
175°	602.4	600.9	599.8	603.4	600.4
177.5°	604.4	602.9	601.8	604.8	601.8
180°	603.4	603.4	603.4	603.4	603.4

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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	14.03	15.15	14.75	15.89	16.78	13.60	14.73	14.33	15.47	16.36
	3H	15.68	16.69	16.42	17.45	18.37	15.22	16.23	15.96	16.99	17.90
	4H	16.27	17.22	17.02	17.98	18.91	15.81	16.76	16.56	17.52	18.45
	6H	16.66	17.54	17.43	18.31	19.26	16.20	17.08	16.97	17.85	18.80
	8H	16.76	17.60	17.54	18.40	19.34	16.31	17.14	17.08	17.94	18.88
	12H	16.81	17.61	17.60	18.40	19.37	16.35	17.15	17.13	17.94	18.91
4H	2H	14.51	15.46	15.27	16.23	17.16	14.17	15.12	14.93	15.89	16.82
	3H	16.37	17.17	17.14	17.97	18.91	15.99	16.78	16.76	17.58	18.53
	4H	17.08	17.80	17.86	18.60	19.58	16.68	17.41	17.47	18.21	19.18
	6H	17.59	18.21	18.39	19.04	20.02	17.19	17.82	17.99	18.64	19.62
	8H	17.73	18.32	18.54	19.14	20.13	17.33	17.92	18.14	18.74	19.73
	12H	17.80	18.33	18.63	19.17	20.17	17.40	17.93	18.23	18.77	19.77
8H	4H	17.28	17.87	18.09	18.69	19.69	16.93	17.52	17.74	18.34	19.34
	6H	17.90	18.39	18.74	19.25	20.24	17.55	18.03	18.38	18.90	19.89
	8H	18.11	18.54	18.95	19.40	20.41	17.75	18.18	18.60	19.04	20.05
	12H	18.24	18.62	19.09	19.47	20.53	17.87	18.25	18.72	19.10	20.17
12H	4H	17.28	17.81	18.11	18.65	19.65	16.94	17.47	17.76	18.31	19.31
	6H	17.93	18.36	18.77	19.22	20.23	17.59	18.02	18.43	18.88	19.89
	8H	18.16	18.54	19.01	19.39	20.46	17.82	18.20	18.67	19.05	20.12